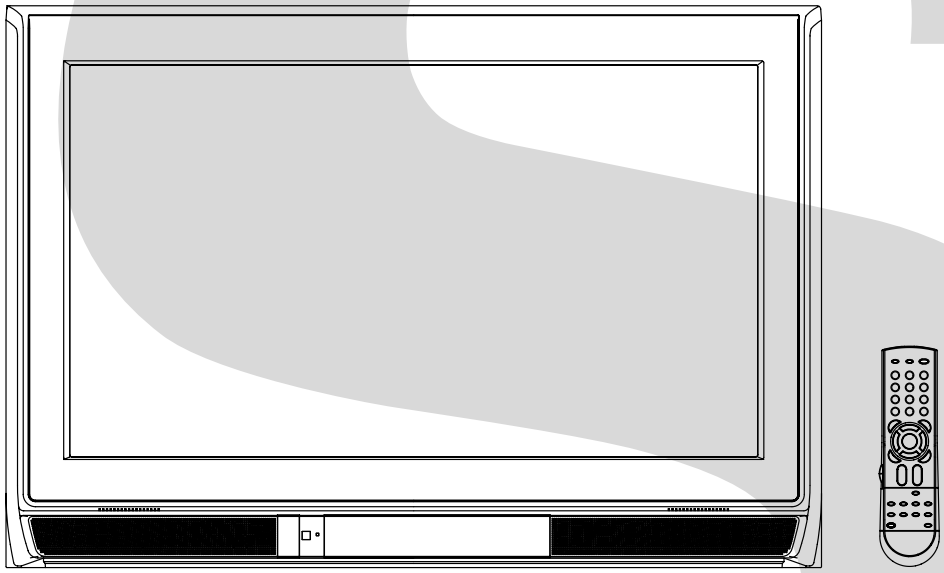
TOSHIBA

FILE NO. 050-200418

SERVICE MANUAL

COLOR TELEVISION

30HF84



DOCUMENT CREATED IN JAPAN, July, 2004

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.
Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.
Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the eternal exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal
Earphone jack

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

1. MODEL NUMBER and VERSION LETTER
   The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.
2. PART NO. and DESCRIPTION
   You can find it in your SERVICE MANUAL.

IMPORTANT

Inferior silicon grease can damage IC's and transistors.
When replacing an IC's or transistors, use only specified silicon grease (YG6260M).
Remove all old silicon before applying new silicon.

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GENERAL SPECIFICATIONS

G-1	**TV System**	CRT	CRT Size / Visual Size	30 inch / 760mmV
			CRT Type	Flat (16:9)
			Deflection	100 degree
			Magnetic Field BV/BH	+0.45G/0.18G
		Color System		NTSC
		Speaker		2 Speaker
			Position	Front Bottom
			Size	1.8 x 3.9 Inch
			Impedance	4 ohm
		Sound Output	MAX	10W+10W
			10%(Typical)	- W
		NTSC3.58+4.43 /PAL60Hz		No
G-2	**Tuning System**	Broadcasting System		US System M
		Tuner and Receive CH	System	1Tuner
			Destination	USA(W/ CABLE)
			Tuning System	F-Synth
			Input Impedance	VHF/UHF 75 ohm
			CH Coverage	2 - 69, 4A, A-5 - A-1, A - I, J - W, W+1 - W+84
		Intermediate Frequency	Picture(FP)	45.75MHz
			Sound(FS)	41.25MHz
			FP-FS	4.50MHz
		Preset CH		No
		Stereo/Dual TV Sound		Yes
		Tuner Sound Muting		Yes
G-3	**Power**	Power Source	AC	120V AC 60Hz
			DC	
		Power Consumption	at AC	
				185 W at AC 120 V 60 Hz
			Stand by (at AC)	1 W at AC 120 V 60 Hz
			Per Year	-- kWh/Year
		Protector	Power Fuse	Yes
			Safety Circuit	Yes
			IC Protector(Micro Fuse)	Yes
G-4	**Regulation**		Safety	UL/CSA
			Radiation	FCC/IC
			X-Radiation	DHHS/HWC
G-5	**Temperature**		Operation	+5oC ~ +40oC
			Storage	-20oC ~ +60oC
G-6	**Operating Humidity**			Less than 80% RH

GENERAL SPECIFICATIONS

G-7	**On Screen Display**	Menu			Yes
			Menu Type		Icon
			Picture		Yes
				Mode(Picture preference)	Yes
				Brightness	Yes
				Contrast	Yes
				Color	Yes
				Tint	Yes
				Sharpness	Yes
				Color Temperature	Yes
				Display Format	Yes
				Cable Clear	No
				SVM	Yes
				Reset	Yes
			Audio		Yes
				MTS	Yes
				Bass	Yes
				Treble	Yes
				Balance	Yes
				Stable Sound	Yes
				Speakers On/Off	Yes
				Dolby Virtual	No
				WOW SRS 3D	Yes
				WOW Focus	Yes
				WOW Tru Bass	Yes
				BBE	No
				HDMI1	Yes
				HDMI2	No
				Reset	Yes
			Setup		Yes
				Language	Yes
				Clock Set	Yes
				TV/CABLE	Yes
				CH Program	Yes
				Add/ Erase	Yes
				Closed Caption	Yes
				Picture Size	Yes
				Picture Scroll	Yes
				Cinema Mode	Yes
				Aspect	Yes
				Image Tilt	Yes
			Option		Yes
				Timer	Yes
				Favorite CH	Yes
				CH Label	Yes
				VIDEO Label	Yes
			Locks		Yes
				V-Chip	Yes
				Lock	Yes
				New Password	Yes
				Front Panel Lock	Yes
			Control Level		Yes
				Volume	Yes
				Contrast	Yes
				Brightness	Yes
				Color	Yes
				Tint	Yes
				Sharpness	Yes
				Bass	Yes
				Treble	Yes
				Balance	Yes
				Image Tilt	Yes
				Picture Scroll	Yes
			Stereo, SAP, Mono		Yes
			Video		Yes
			Color Stream(Component)		Yes
			HDMI		Yes
			Channel(TV/Cable)		Yes
			CH Label		Yes
			Video Label		Yes
			Clock		Yes
			Game Timer		Yes
			Front Panel Lock		Yes
			On Timer		Yes
			Sleep Timer		Yes
			Reset		Yes
			Sound Mute		Yes
			V-chip Rating		Yes
			NOT AVAILABLE		Yes
			Picture Size		Yes

GENERAL SPECIFICATIONS

G-8	**OSD Language**			English French Spanish
G-9	**Clock and Timer**	Sleep Timer	Max Time	120 Min
			Step	10 Min
		On Timer	Program	Yes
		Wake Up Timer		No
		Timer Back-up (at Power Off Mode)	more than	-- Min Sec
G-10	**Remote Control**	Unit		RC-GR
		Glow in Dark Remocon		No
		Back Light Remocon		Yes
		Format		Toshiba
		Custom Code		TV:40-BFh
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-3 x 2 pcs
		Total Keys		40 Keys
		Keys	Power	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0	Yes
			100 /+10	Yes
			CH Up	Yes
			CH Down	Yes
			Volume Up	Yes
			Volume Down	Yes
			TV/Video(Input Select)	Yes
			ENT,CH RTN(Quick View)	Yes
			Menu > / FAV Up	Yes
			Menu < / FAV Down	Yes
			Menu Up	Yes
			Menu Down	Yes
			Mute	Yes
			PIC SIZE (16:9)	Yes
			Light	Yes
		Multi Brand Keys	TV/CBL/SAT/VCR/DVD	Yes
		(DVD Keys)	Enter	Yes
		(TV / DVD Keys)	SLEEP/TOP MENU	Yes
			RECALL(Call) / (Display)	Yes
			Menu/Enter / DVD MENU	Yes
			Exit / DVD CLEAR	Yes
		(DVD / VCR Keys)	Pause/Still	Yes
			FF	Yes
			Rew	Yes
			Play	Yes
			Stop	Yes
			<</Skip / Search Forward	Yes
			>>/Skip / Search Forward	Yes
		(VCR Keys)	Rec	Yes
			TV/VCR	Yes

GENERAL SPECIFICATIONS

G-11	Features	Auto Degauss	Yes
		Auto Shut Off	Yes
		CABLE	Yes
		Memory(Last CH)	Yes
		Memory(Last Volume)	Yes
		V-Chip	Yes
		Type	USA, ORION Type
		SRS WOW(SRS 3D/Focus/Tru Bass)	Yes
		Timer(On Timer /Sleep Timer)	Yes
		Aspect	Yes
		Cinema Mode	Yes
		Image Tilt	Yes
		BBE	No
		Direct Input Selection	Yes
		Auto Search	No
		CH Allocation	No
		CH Lock	Yes
		CH Program	Yes
		CH Label	Yes
		SAP	Yes
		Just Clock Function	No
		VIDEO Label	Yes
		SVM	Yes
		VM Circuit	Yes
		Comb Filter	Yes
			3 -D
		Super Wide Band AMP	No
		Cable Clear	No
		Hotel Lock	No
		Closed Caption	Yes
		Stable Sound	Yes
		FBT Leak Test Protect	Yes
		Video Lock	Yes
		Game Timer(Max Time:120Min)	Yes
		Energy Star	Yes
		Favorite CH	Yes
		Variable Audio Out	Yes
		Virtual Dolby	No
		Picture Size	Yes
		Color Temperature Control	Yes
		Mode(Picture Preference)	Yes
		Front Panel Lock	Yes
		Available Scan Rates (Component/HDMI)	480i/480p/720p/1080i
		Menu=Volume Up+Volume Down	Yes
		Auto Setup(Language/CH Program)	Yes
G-12	Accessories	Owner's Manual Language	English / French
		W/ Warranty	Yes
		Remote Control Unit	Yes
		Rod Antenna	No
		Poles	
		Terminal	
		Loop Antenna	No
		Terminal	-
		U/V Mixer	No
		DC Car Cord (Center+)	No
		Guarantee Card	No
		Warning Sheet	No
		Circuit Diagram	No
		Antenna Change Plug	No
		Service Station List	No
		Important Safety Instruction	No
		Dew/AHC Caution Sheet	No
		AC Plug Adapter	No
		Quick Set-up Sheet	No
		Battery	Yes
		UM size x pcs	UM-3 x 2
		OEM Brand	No
		AC Cord	No
		AV Cord (2Pin-1Pin)	No
		Registration Card (NDL Card)	Yes
		PTB Sheet	No
		ESP Card	No
		300 ohm to 75 ohm Antenna Adapter	No

GENERAL SPECIFICATIONS

G-13	**Interface**	Switch	Front	Power	Yes
				Channel Up/Menu Up	Yes
				Channel Down/Menu Down	Yes
				Volume Up/Menu >	Yes
				Volume Down/Menu <	Yes
			Rear	AC/DC	No
				TV/CABLE Selector	No
				Degauss	No
				Main Power SW	No
		Indicator		Power	Yes(RED)
				Stand-by	No
				On Timer	No
		Terminals	Front	Video Input = VIDEO3	RCA
				Audio Input = VIDEO3	RCA x 2
				S Input = VIDEO3	Yes
				Other Terminal	No
			Rear	Video Input(Rear1) = VIDEO1	RCA
				Video Input(Rear2) = VIDEO2	RCA
				S Input = VIDEO1	Yes
				S Input = VIDEO2	Yes
				Audio Input(Rear1) = VIDEO1	RCA x 2
				Audio Input(Rear2) = VIDEO2	RCA x 2
				Video Output	RCA
				Audio Output	RCA x 2 (Variable)
				Component Input1(w/ Analog Audio L/R)	RCA x 5
				Component Input2(w/ Analog Audio L/R)	RCA x 5
				HDMI Input1(w/ Analog Audio L/R)	HDMI x 1(RCA x 2)
				HDMI Input2(w/ Analog Audio L/R)	No
				Diversity	No
				Ext Speaker	No
				VHF/UHF Antenna Input	F Type
				AC Outlet	No
G-14	**Set Size**			Approx. W x D x H (mm)	796 x 563 x 549.2
G-15	**Weight**			Net (Approx.)	54.0 kg (88.2 lbs)
				Gross (Approx.)	61.0kg (102.5lbs)
G-16	**Carton**		Master Carton		No
				Content	---- Sets
				Material	-- /--
				Dimensions W x D x H(mm)	-- x -- x --
				Description of Origin	No
			Gift Box		Yes
				Material	Double/Brown
				Dimensions W x D x H(mm)	916 x 691 x 711
				Design	As per Buyer's
				Description of Origin	Yes
			Drop Test		Natural Dropping At 1 Corner / 2 Edges / 4 Surfaces
				Height (cm)	40 (ORION SPEC:25)
			Container Stuffing		129 Sets/40' container
G-17	**Cabinet Material**		Cabinet	Cabinet Front	PS 94V0 DECABROM
				Cabinet Rear	PS 94V0 NON-DECABROM
			PCB	Non-Halogen Demand	No
				Eyelet Demand	Yes
G-18	**Environment**		Pb Free	Lead-free Solder	Yes
				Other	No
			Cd Free		No

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

* After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
* Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 1-1.)**
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground.
   While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

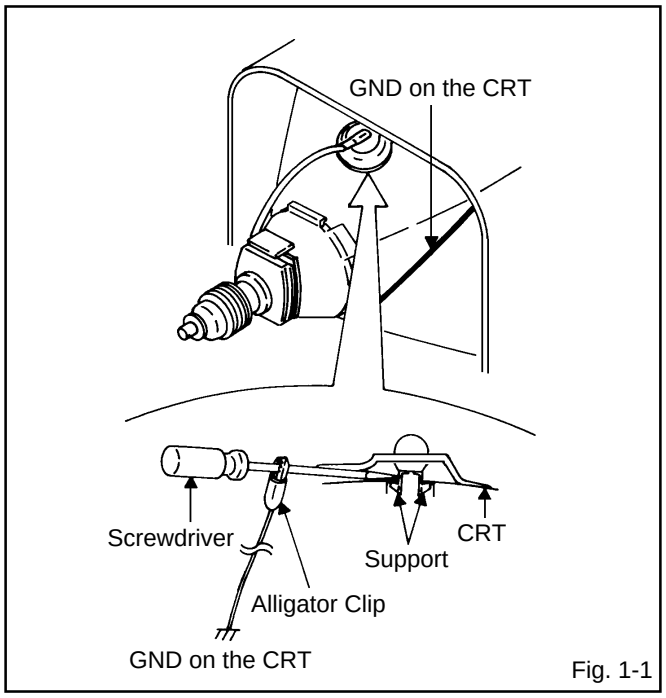


Fig. 1-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 1-2.)**

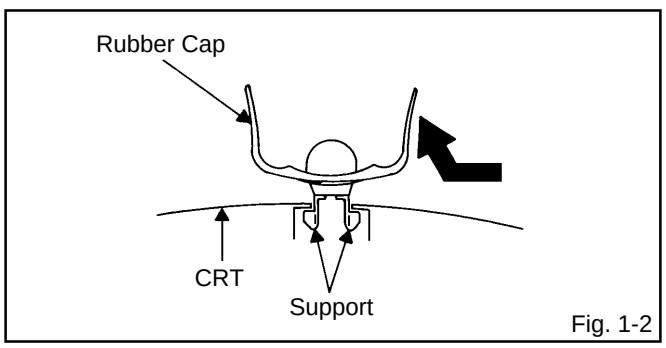


Fig. 1-2

3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 1-3.)**

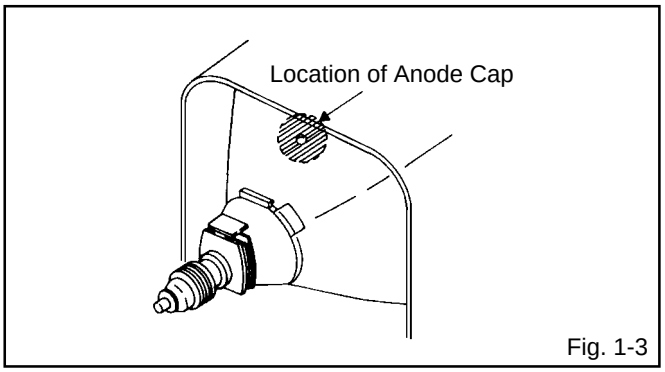


Fig. 1-3

NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 1-4.)**

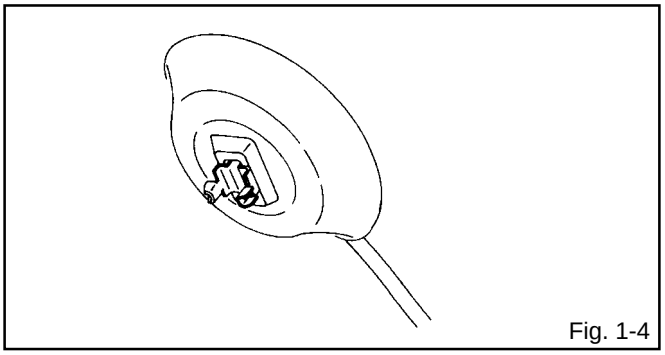


Fig. 1-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 1-5**.

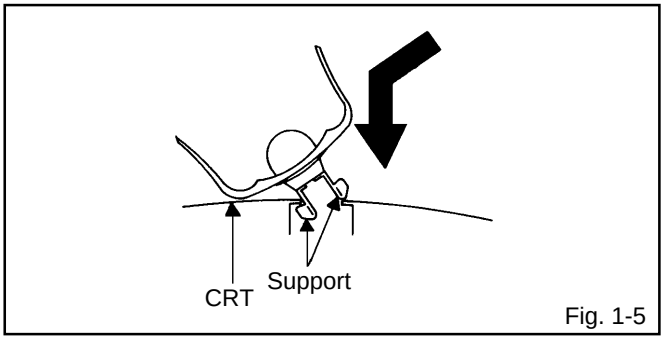


Fig. 1-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

DISASSEMBLY INSTRUCTIONS

2. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. **(Refer to Fig. 2-1.)**

   NOTE

   Masking is carried out on all the parts located within 10 mm distance from IC leads.

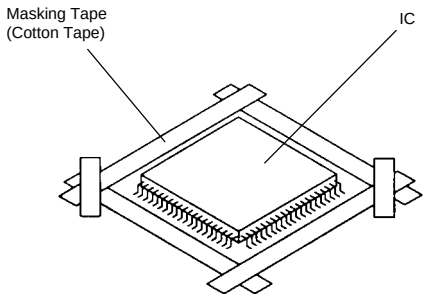


Fig. 2-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 2-2.)**

   NOTE

   Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.

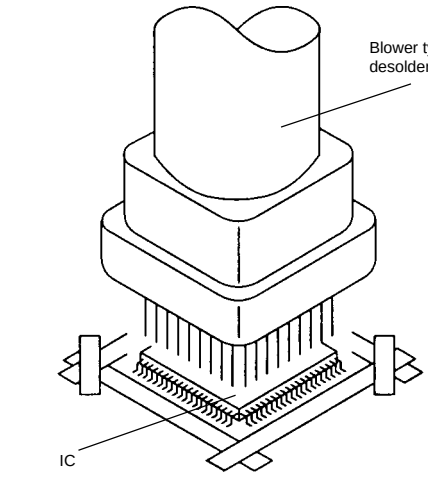


Fig. 2-2

3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 2-3.)**

   NOTE

   Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

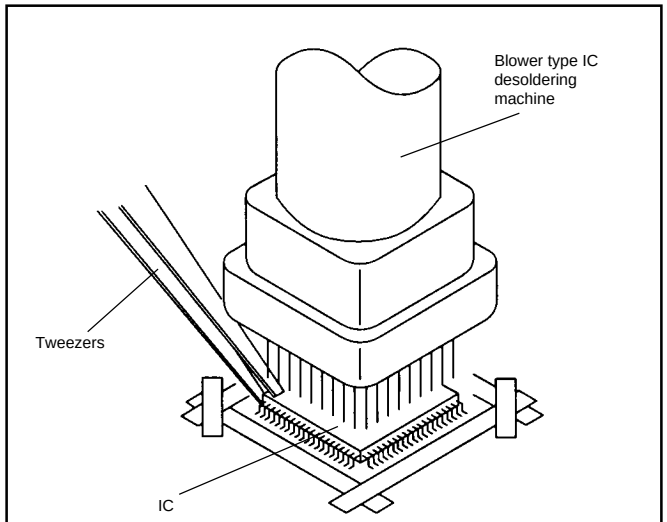


Fig. 2-3

4. Peel off the Masking Tape.

5. Absorb the solder left on the pattern using the Braided Shield Wire. **(Refer to Fig. 2-4.)**

   NOTE

   Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.

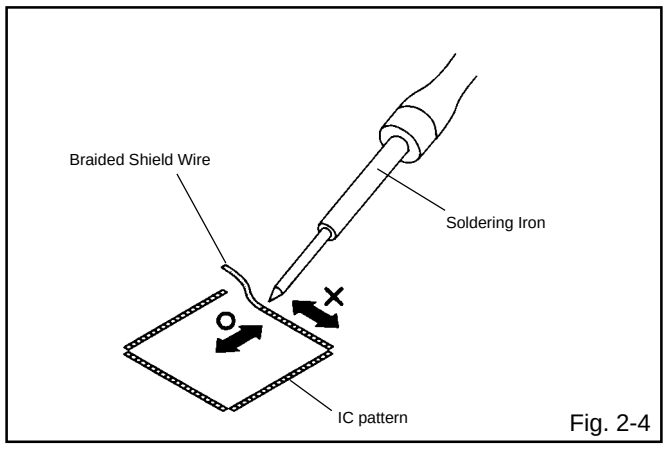


Fig. 2-4

DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 2-5.)**

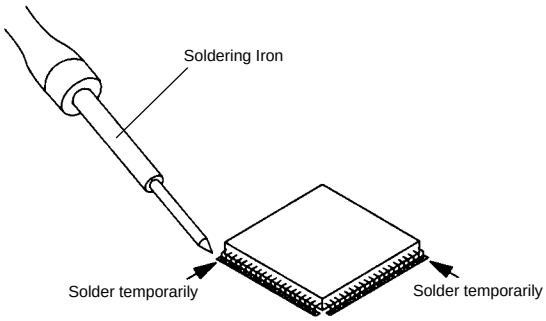


Fig. 2-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 2-6.)**

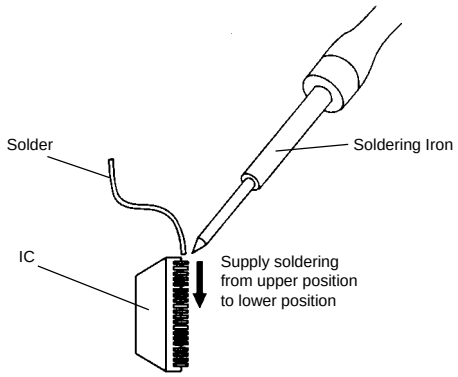


Fig. 2-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 2-7.)**

   NOTE

   Do not absorb the solder to excess.

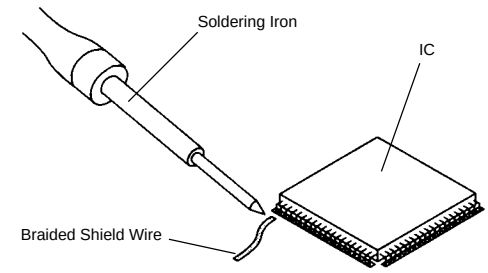


Fig. 2-7

4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 2-8.)**

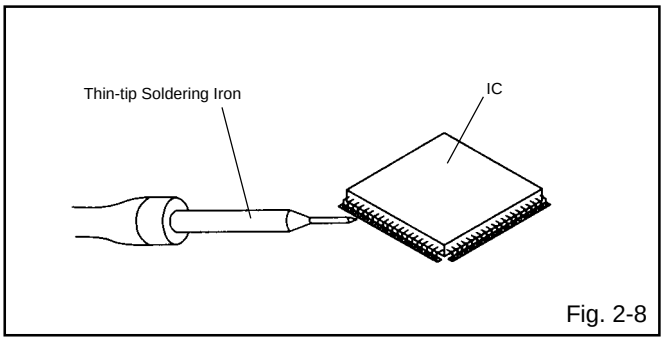


Fig. 2-8

5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
   Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

   NOTE

   When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, always be sure to replace the IC in this case.

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.
To enter the Service Mode, press both set key and remote control key for more than 2 seconds.

Set Key	Remocon Key	Operations
VOL. (-) MIN	0	Releasing of V-CHIP PASSWORD.
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
VOL. (-) MIN	6	POWER ON total hours is displayed on the screen. Refer to the "CONFIRMATION OF HOURS USED". Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
VOL. (-) MIN	9	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

CONFIRMATION OF HOURS USED

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds.
3. After the confirmation of using hours, turn off the power.

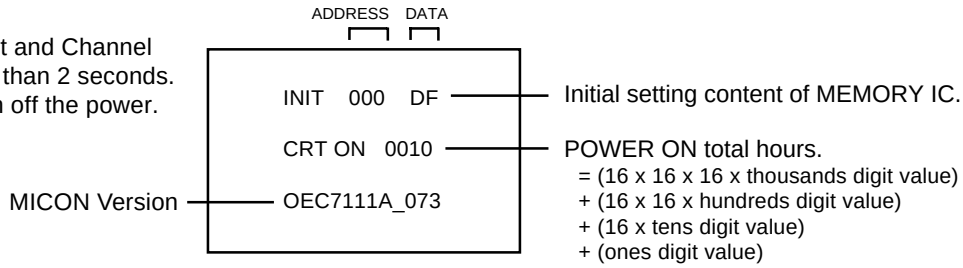

ADDRESS
DATA
INIT 000 DF
Initial setting content of MEMORY IC.
CRT ON 0010
POWER ON total hours.
= (16 x 16 x 16 x thousands digit value)
+ (16 x 16 x hundreds digit value)
+ (16 x tens digit value)
+ (ones digit value)
MICON Version
OEC7111A_073

FIG. 1

WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

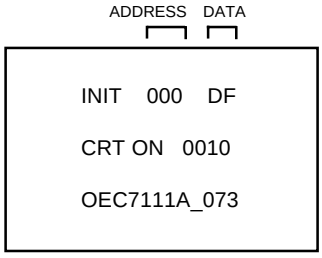


FIG. 1

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	DF	A2	01	C0	A6	1C	86	B8	42	E4	B3	03	0D	36	03	00
10	01	05	1F	24	40	45	5D	62	45	4A	67	0F	15	0A	AA	00
20	8F	00	00	00	00	00	00	00	00	19	00	5A	98	33	04	76
30	77	05	07	21	10	07	00	22	74	81	01	07	06	40	40	40
40	8F	C0	40	00	27	0A	2A	00	13	C0	80	35	70	72	99	59
50	68	99	5B	00	73	14	1F	2D	24	16	00	00	00	00	00	F6
60	EF	DB	DB	DB	15	00	00	26	06	07	09	00	C9	C8	E8	BC
70	80	0F	00	3F	22	22	00	00	00	00	1D	6D	FF	FF	FA	FA
80	FF	C0	52	50	8B	00	06	06	22	00	96	8B	8C	90	22	00
90	11	0A	00	07	00	00	00	B6	01	48	33	23	27	2A	2D	30
A0	33	36	39	3C	3F	42	45	48	4B	4E	51	53	55	57	58	59
B0	5A	5B	5C	5D	5E	5F	61	63	65	67	69	6A	6B	6C	6D	6E
C0	6F	70	71	71	72	72	73	73	74	74	75	75	75	75	76	76
D0	76	76	77	77	77	77	78	78	78	78	79	42	00	00	00	0C
E0	15	04	04	FE	E8	F0	FA	27	33	0E	21	32	32	38	00	3F
F0	54	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
100	DC	F1	3C	22	22	5A	71	69	33	00	0E	38	22	22	DA	71
110	69	33	00	44	00	77	59	94	56	02	01	82	04	03	05	02
120	02	02	02	02	02	01	00	81	00	81	00	88	00	D0	81	02
130	81	02	81	02	00	81	05	00	FB	F7	00	00	7C	3E	00	00
140	00	00	00	00	00	23	16	F8	08	16	00	03	03	---	---	---

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds. ADDRESS and DATA should appear as FIG 1.
3. ADDRESS is now selected and should "blink". Using the UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press RIGHT/LEFT button to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using UP/DOWN button until required DATA value has been selected.
6. Pressing RIGHT/LEFT button will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

After the data input, set to the initializing of shipping.

9. Turn POWER on.
10. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

The unit will now have the correct DATA for the new MEMORY IC.

ELECTRICAL ADJUSTMENTS

1. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor.)

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. Multi-sound Generator
4. Pattern Generator

On-Screen Display Adjustment

1. In the condition of NO indication on the screen. Press the VOL. DOWN button on the set and the Channel button **(9)** on the remote control for more than 2 second to appear the adjustment mode on the screen as shown in **Fig. 1-1**.

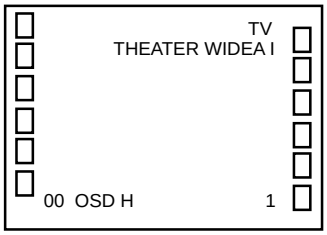


Fig. 1-1

3. Use the Channel UP/DOWN button or Channel button **(0-9)** on the remote control to select the options shown in **Fig. 1-2**.
4. Press the MENU button on the remote control to end the adjustments.
5. To display the adjustment screen for AV, CS and HD-MI mode, press the TV/VIDEO button on the remote control to set to the AV, CS and HD-MI mode. Press the VOL.DOWN button on the set and the channel **(9)** on the remote control for more than 2 seconds.

NO.	FUNCTION	NO.	FUNCTION	NO.	FUNCTION
00	OSD H	20	CORNER	40	R-Y PHASE
01	CUT OFF	21	C.PARA	41	G-Y GAIN
02	H.POSI	22	C.SAW	42	G-Y PHASE
03	V.POSI	23	V.SYMM	43	BRI.CENT
04	H. SIZE	24	R.BIAS	44	BRI.MAX
05	V. SIZE	25	G.BIAS	45	BRI.MIN
06	V. LIN	26	B.BIAS	46	CONT.CENT
07	V-EHT	27	R/G.DRV	47	CONT.MAX
08	H-EHT	28	B/R.DRV	48	CONT.MIN
09	V-BLK P	29	R.BIAS(C)	49	COL.CENT
10	V-BLK S	30	G.BIAS(C)	50	COL.MAX
11	V.CENT	31	B.BIAS(C)	51	COL.MIN
12	V.LIMIT	32	R/G.DRV(C)	52	SUB CONT
13	V.CORR	33	B/R.DRV(C)	53	TINT
14	V.S.CORR	34	R.BIAS(W)	54	SHARP.CENT
15	EW PARA	35	G.BIAS(W)	55	SHARP.MAX
16	TRAPEZIUM	36	B.BIAS(W)	56	SHARP.MIN
17	COR.TOP	37	R/G.DRV(W)	57	TILT.CENT
18	COR.BTM	38	B/R.DRV(W)	58	TEST STEREO
19	S.CORR	39	R-Y GAIN	59	TEST AUDIO

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CUT OFF

1. Place the set with Aging Test for more than 15 minutes.
2. Set condition is AV MODE without signal.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(01)** on the remote control to select "CUT OFF".
5. Adjust the **Screen Volume** until a dim raster is obtained.

2-2: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 10 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(24)** on the remote control to select “R.BIAS”.
5. Press the CH. UP/DOWN button on the remote control to select the “R.BIAS”, “G.BIAS”, “B.BIAS”, “R/G.DRV”, “B/R.DRV”, “R.BIAS(C)”, “G.BIAS(C)”, “B.BIAS(C)”, “R/G.DRV(C)”, “B/R.DRV(C)”, “R.BIAS(W)”, “G.BIAS(W)”, “B.BIAS(W)”, “R/G.DRV(W)” or “B/R.DRV(W)”.
6. Adjust the VOL. UP/DOWN button on the remote control to whiten the R.BIAS(C), G.BIAS(C), B.BIAS(C), R/G.DRV(C), B/R.DRV(C), R.BIAS(W), G.BIAS(W), B.BIAS(W), R/G.DRV(W) and B/R.DRV(W)”at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white color is looked like a white.

ELECTRICAL ADJUSTMENTS

2-3: DOUBLE FOCUS

1. Receive the cross hatch signal from the Pattern Generator.
2. Turn the **F1 VR** and **F2 VR** fully clockwise once. **(Refer to Fig. 2-1)**
3. Adjust the **F1 VR** so that the screen becomes clearest. Then adjust the **F2 VR**.

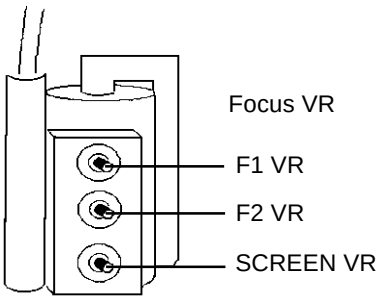


Fig. 2-1

2-4: OSD HORIZONTAL

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(00)** on the remote control to select "OSD H".
4. Press the LEFT/RIGHT button on the remote control until the difference of A and B becomes minimum. **(Refer to Fig. 2-2)**

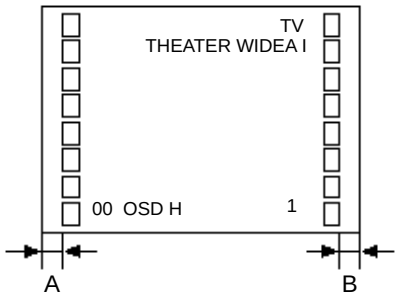


Fig. 2-2

2-5: HORIZONTAL POSITION/ HORIZONTAL SIZE

1. Receive the monoscope pattern.
2. Press the MENU button. And, then press the LEFT/ RIGHT button on the remote control until the PICTURE menu appears.
3. Press the LEFT/RIGHT button on the remote control to highlight DISPLAY FORMAT.
4. Press the LEFT/RIGHT button on the remote control to select 1080i.
5. Set the screen mode to FULL.
6. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(02)** on the remote control to select "H.POSI".
7. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes becomes minimum.
8. Receive the monoscope pattern.
9. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(04)** on the remote control to select “H. SIZE”.
10. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes 7.5%.

2-6: VERTICAL CENT/ VERTICAL SIZE

1. Receive the monoscope pattern.
2. Press the MENU button. And, then press the LEFT/ RIGHT button on the remote control until the PICTURE menu appears.
3. Press the LEFT/RIGHT button on the remote control to highlight DISPLAY FORMAT.
4. Press the LEFT/RIGHT button on the remote control to select 1080i.
5. Set the screen mode to FULL.
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(11)** on the remote control to select “V. CENT”.
8. Press the VOL. UP/DOWN button on the remote control until the horizontal line becomes fit to the notch of the shadow mask.
9. Receive the monoscope pattern.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(07)** on the remote control to select “V. SIZE”.
11. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes 8%.

ELECTRICAL ADJUSTMENTS

2-7: VERTICAL LINEARITY

NOTE: Adjust after performing adjustments in section 2-6. After the adjustment of Vertical Linearity, reconfirm the Vertical Position and Vertical Size adjustments.

1. Receive the monoscope pattern.
2. Press the MENU button. And, then press the LEFT/ RIGHT button on the remote control until the PICTURE menu appears.
3. Press the LEFT/RIGHT button on the remote control to highlight DISPLAY FORMAT.
4. Press the LEFT/RIGHT button on the remote control to select 1080i.
5. Set the screen mode to FULL.
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(06)** on the remote control to select “V. LIN”.
8. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes 8%.

2-8: BRIGHT CENT

1. Receive the monoscope pattern. (RF Input)
2. Set the screen mode to FULL.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(43)** on the remote control to select "BRI CENT".
5. Press the VOL. UP/DOWN button on the remote control until the white 30% is starting to be visible
6. Receive the monoscope pattern. (Audio Video Input)
7. Press the TV/VIDEO button on the remote control to set to the AV mode. Then perform the above adjustments 2~5.
8. Receive the monoscope pattern.
9. Press the TV/VIDEO button on the remote control to set to the CS mode.Then perform the above adjustments 2~5.
10. Receive the monoscope pattern.
11. Press the TV/VIDEO button on the remote control to set to the HD-MI mode.Then perform the above adjustments 2~5.

2-9: SUB CONTRAST

1. Set the screen mode to FULL.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(52)** on the remote control to select "SUB CONT".
3. Check if the step No. SUB CONT is "11".
4. Receive a broadcast and check if the picture is normal.
5. Press the TV/VIDEO button on the remote control to set to the AV mode. Then perform the above adjustments 1~4.
6. Press the TV/VIDEO button on the remote control to set to the CS mode. Then perform the above adjustments 1~4.
7. Press the TV/VIDEO button on the remote control to set to the HD-MI mode. Then perform the above adjustments 1~4.

2-10: E/W PARA

1. Receive the crosshatch signal from the Pattern Generator.
2. Set the screen mode to FULL.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(15)** on the remote control to select “E W PARA”.
5. Press the VOL. UP/DOWN button on the remote control until the both ends vertical lines become straight.
6. Set the screen mode to 4:3.
7. Press the VOL. UP/DOWN button on the remote control until the both ends vertical lines of the screen become parallel.

2-11: TRAPEZIUM

1. Receive the crosshatch signal from the Pattern Generator.
2. Press the MENU button. And, then press the LEFT/ RIGHT button on the remote control until the PICTURE menu appears.
3. Press the LEFT/RIGHT button on the remote control to highlight DISPLAY FORMAT.
4. Press the LEFT/RIGHT button on the remote control to select 1080i.
5. Set the screen mode to FULL.
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(16)** on the remote control to select “TRAPEZIUM”.
8. Press the VOL. UP/DOWN button on the remote control until the both ends vertical lines of the screen become parallel.

2-12: COR TOP/BTM

1. Receive the crosshatch signal from the Pattern Generator.
2. Set the screen mode to FULL.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(17)** on the remote control to select “COR. TOP”.
5. Press the VOL. UP/DOWN button on the remote control until the both ends vertical lines become straight.
6. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(18)** on the remote control to select “COR. BTM”.
7. Press the VOL. UP/DOWN button on the remote control until the both ends vertical lines of the screen become parallel.

ELECTRICAL ADJUSTMENTS

2-13: TINT/COLOR CENT

1. Receive the color bar pattern.
2. Connect the oscilloscope to **TP806**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(53)** on the remote control to select "TINT".
4. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes as straight line. **(Refer to Fig. 2-3)**
5. Connect the oscilloscope to **TP805**.
6. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(49)** on the remote control to select "COL.CENT".
7. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 125 ± 10% of the white level. **(Refer to Fig. 2-4)**
8. Please check whether the waveform of TP806 is straight line. If is not a straight line, adjust to TINT again.
9. Receive the color bar pattern. (Audio Video Input)
10. Press the TV/VIDEO button on the remote control to set to the AV mode. Then perform the above adjustments 2~8.
11. Receive the color bar pattern.
12. Press the TV/VIDEO button on the remote control to set to the CS mode. Then perform the above adjustments 2~8.
13. Receive the color bar pattern.
14. Press the TV/VIDEO button on the remote control to set to the HD-MI mode. Then perform the above adjustments 2~8.

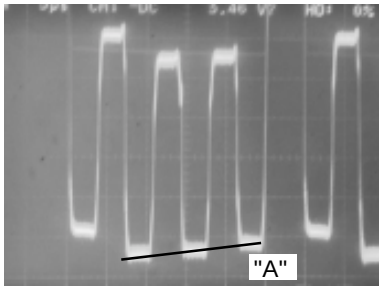


Fig. 2-3

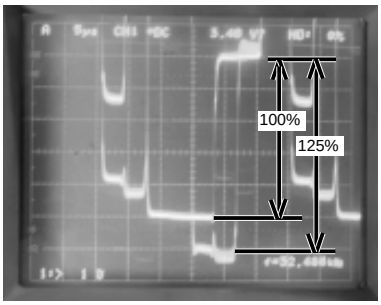


Fig. 2-4

2-14: TILT

1. Connect the digital voltmeter between **W843** and **W844**.
2. Receive the crosshatch signal from the Pattern Generator.
3. Press the PIC SIZE button on the remote control to select the FULL screen mode.
4. Using the remote control, set the brightness and contrast to normal position.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(57)** on the remote control to select “TILT CENT”.
6. Press the VOL. UP/DOWN button on the remote control until the voltage become minimum(0V).

2-15: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	RF	AV	CS	HD-MI
03	V.POSI	01	01	01	01
07	V-EHT	04	04	04	04
08	H-EHT	03	03	03	03
09	V-BLK P	31	31	31	31
10	V-BLK S	00	00	00	00
12	V.LIMIT	00	00	00	00
13	V.CORR	02	02	02	02
14	C.S.CORR	30	30	30	30
19	S.CORR	16	16	16	16
20	CORNER	21	21	21	21
21	C.PARA	8	8	8	8
22	C.SAW	8	8	8	8
23	V.SYMM	128	128	128	128
39	R-Y GAIN	8	8	8	8
40	R-Y PHASE	0	0	0	0
41	G-Y GAIN	5	5	5	5
42	G-Y PHASE	0	0	0	0
44	BRI.MAX	250	250	250	250
45	BRI.MIN	110	110	110	110
46	CONT.CENT	70	70	70	70
47	CONT.MAX	127	127	127	127
48	CONT.MIN	40	40	40	40
50	COL.MAX	127	127	127	127
51	COL.MIN	0	0	0	0
54	SHARP.CENT	55	55	64	64
55	SHARP.MAX	100	100	100	100
56	SHARP.MIN	0	0	0	0

ELECTRICAL ADJUSTMENTS

3. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 3-1)**
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue color.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

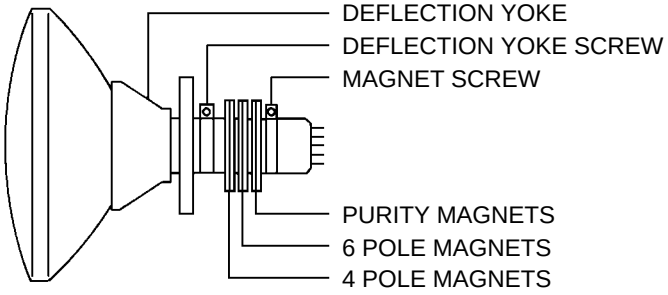


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 3-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 3-2-b)**

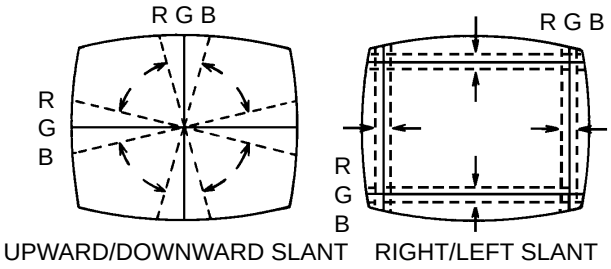


Fig. 3-2-a

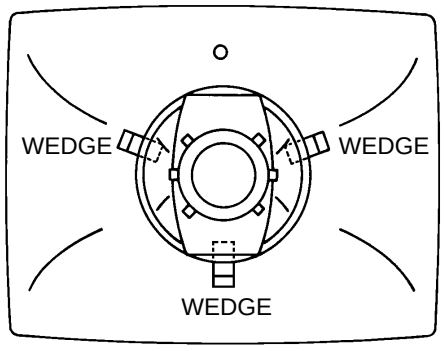
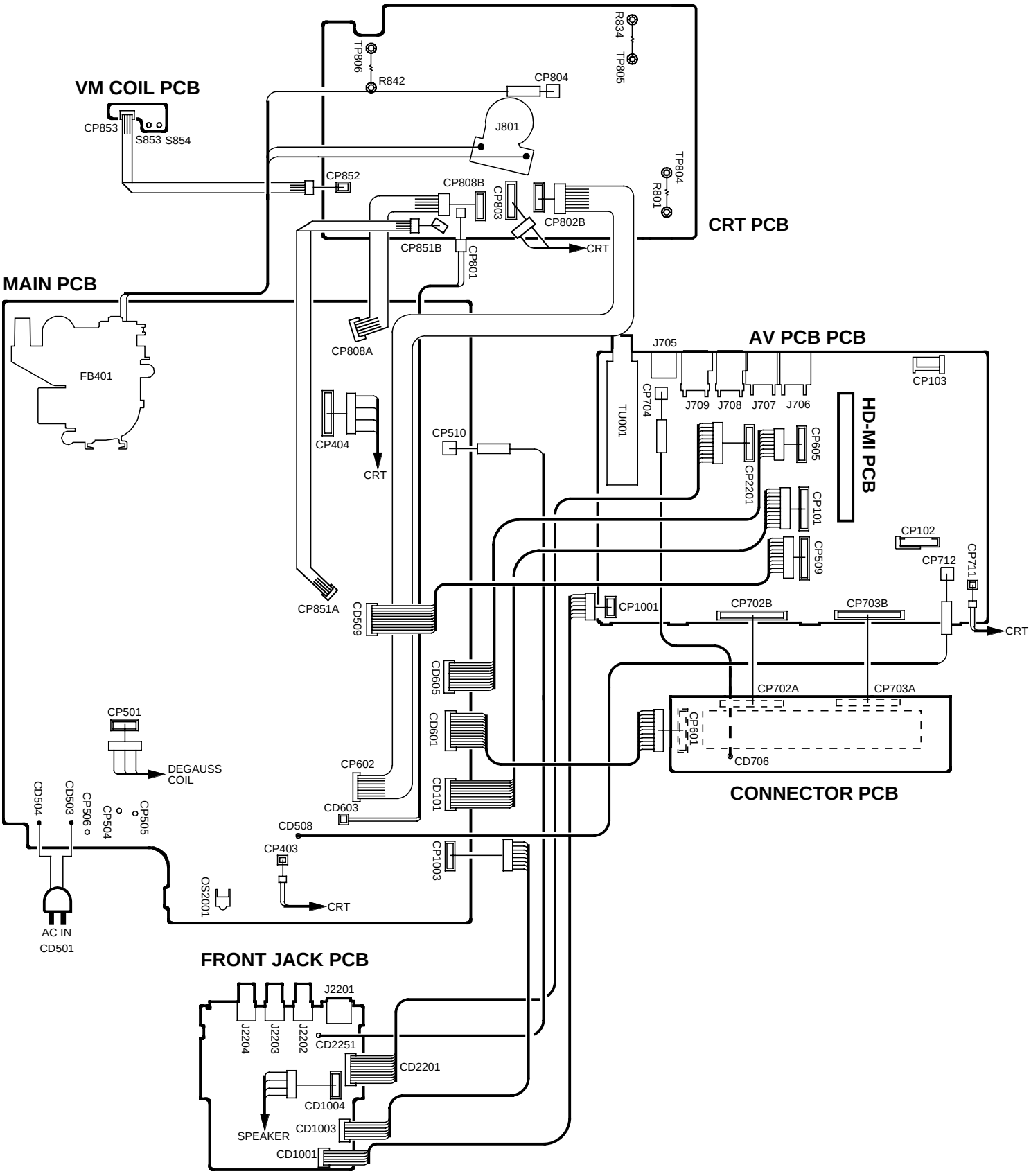


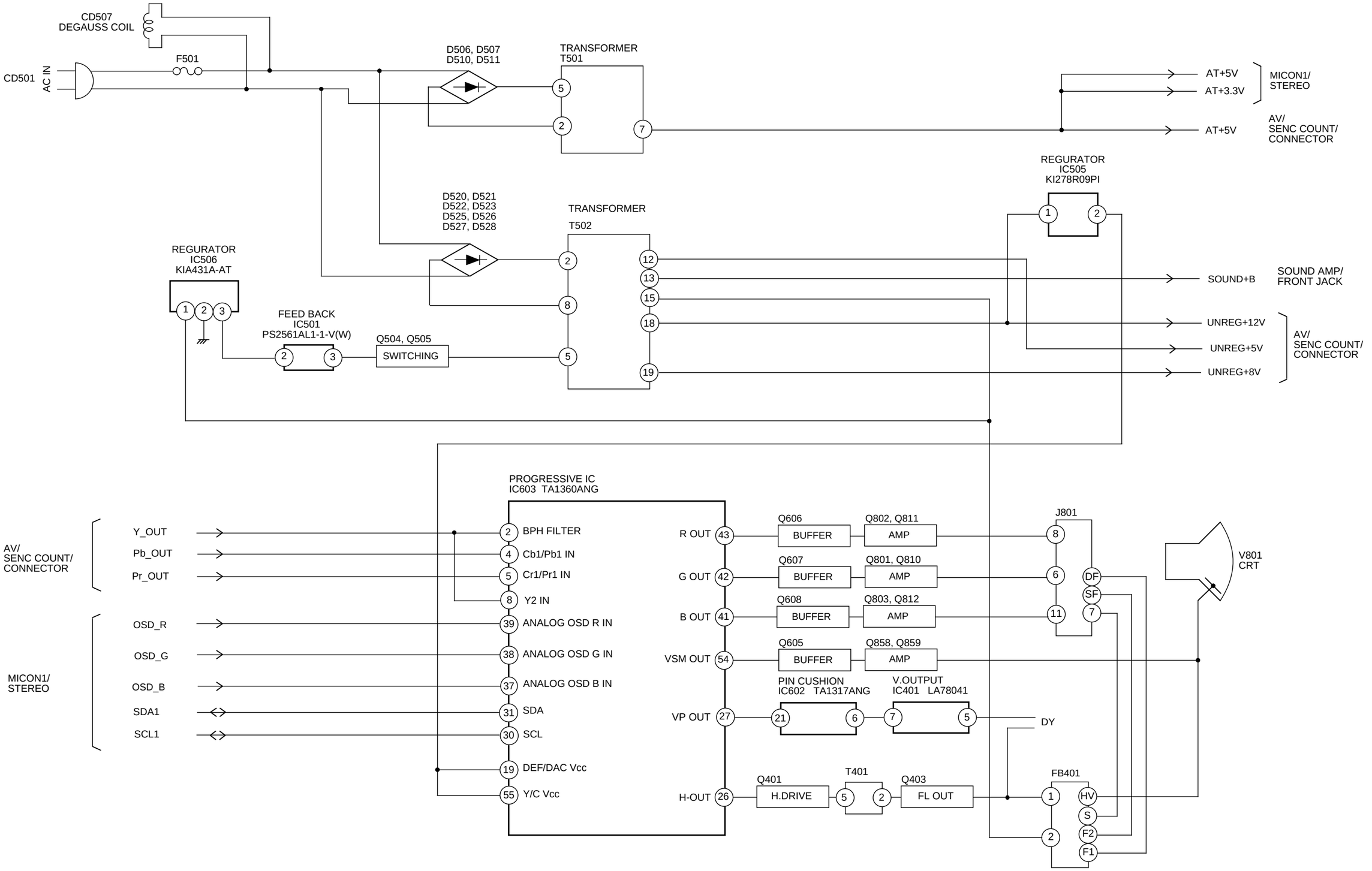
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

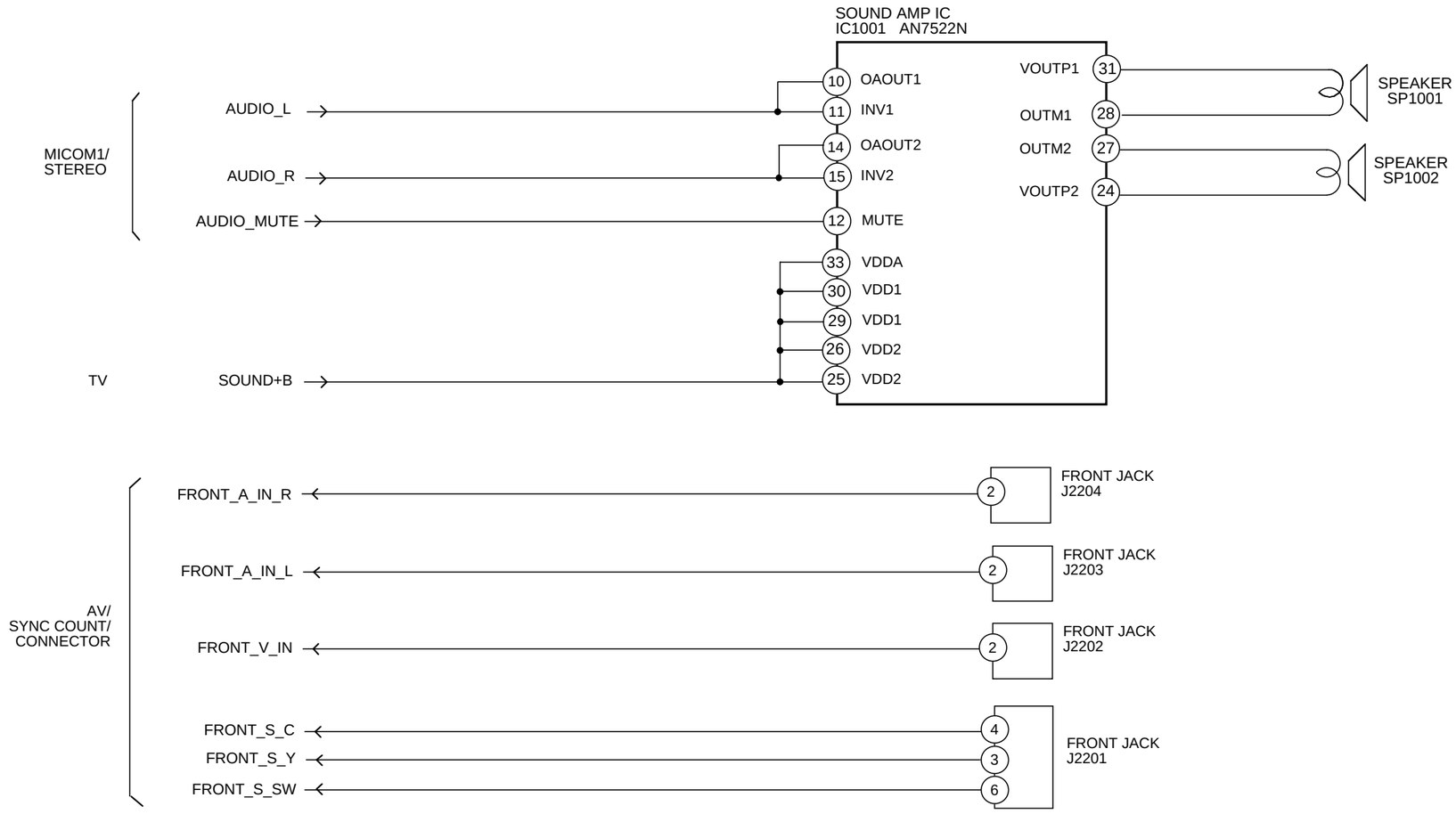
4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



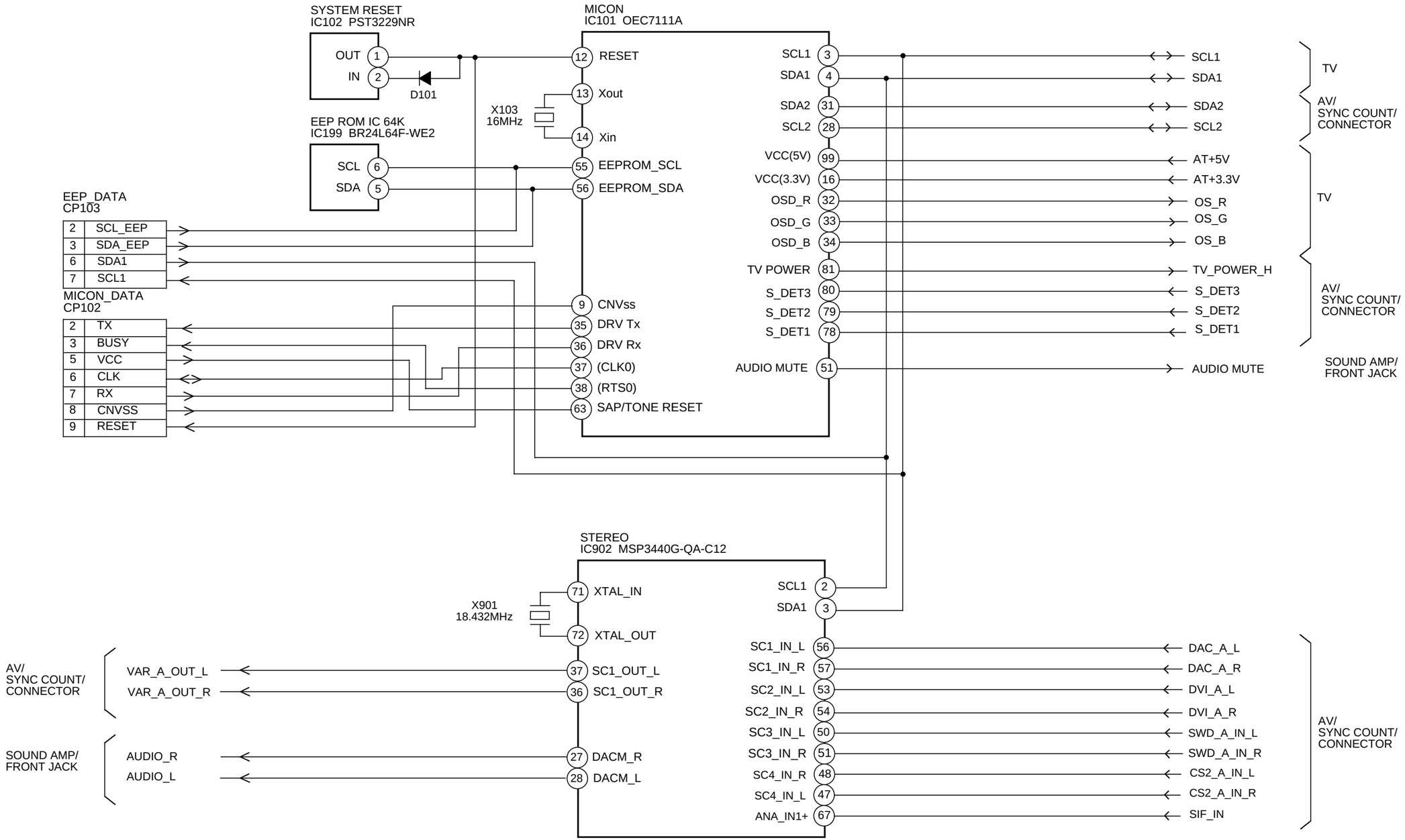
TV BLOCK DIAGRAM



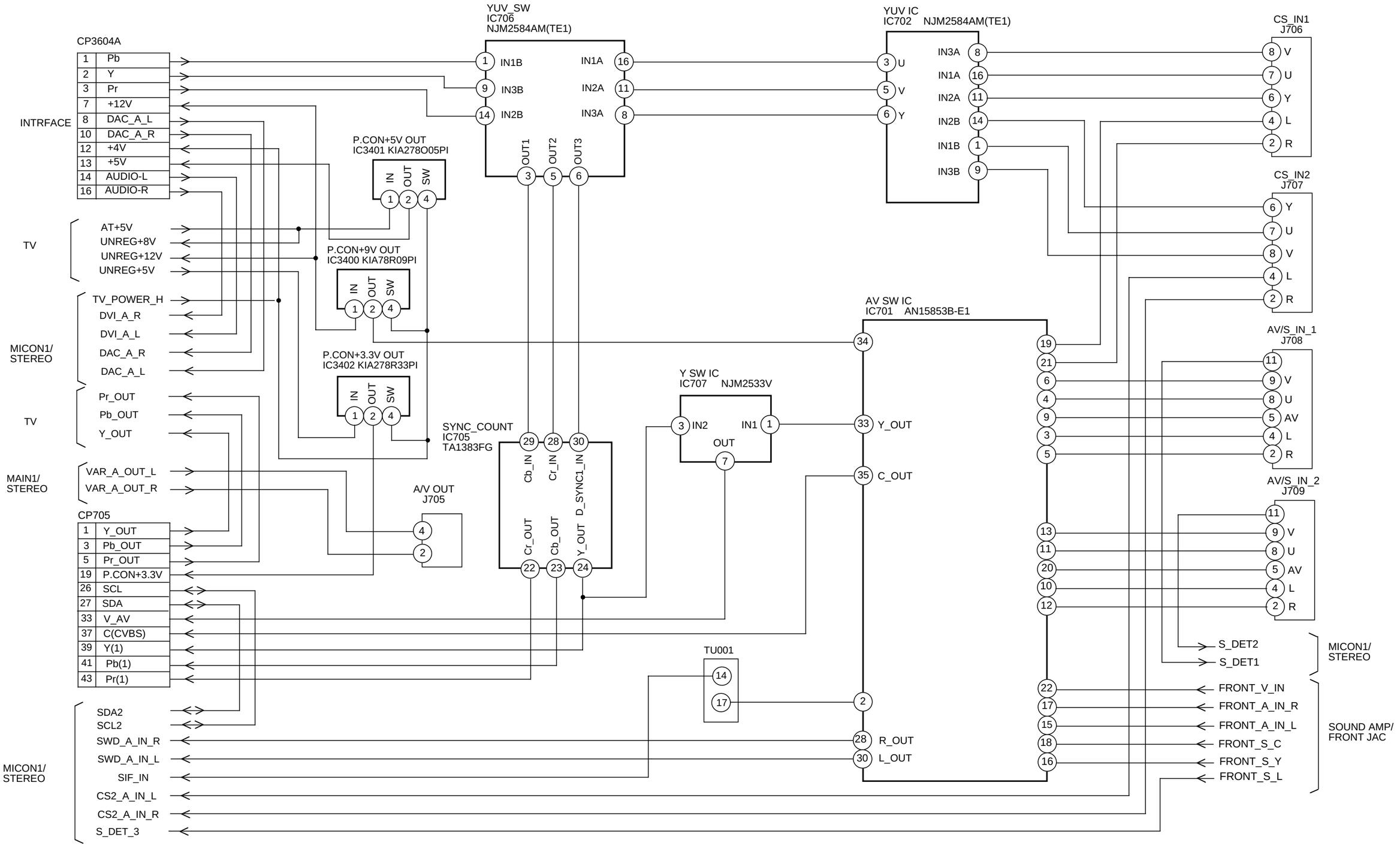
SOUND AMP/FRONT JACK BLOCK DIAGRAM



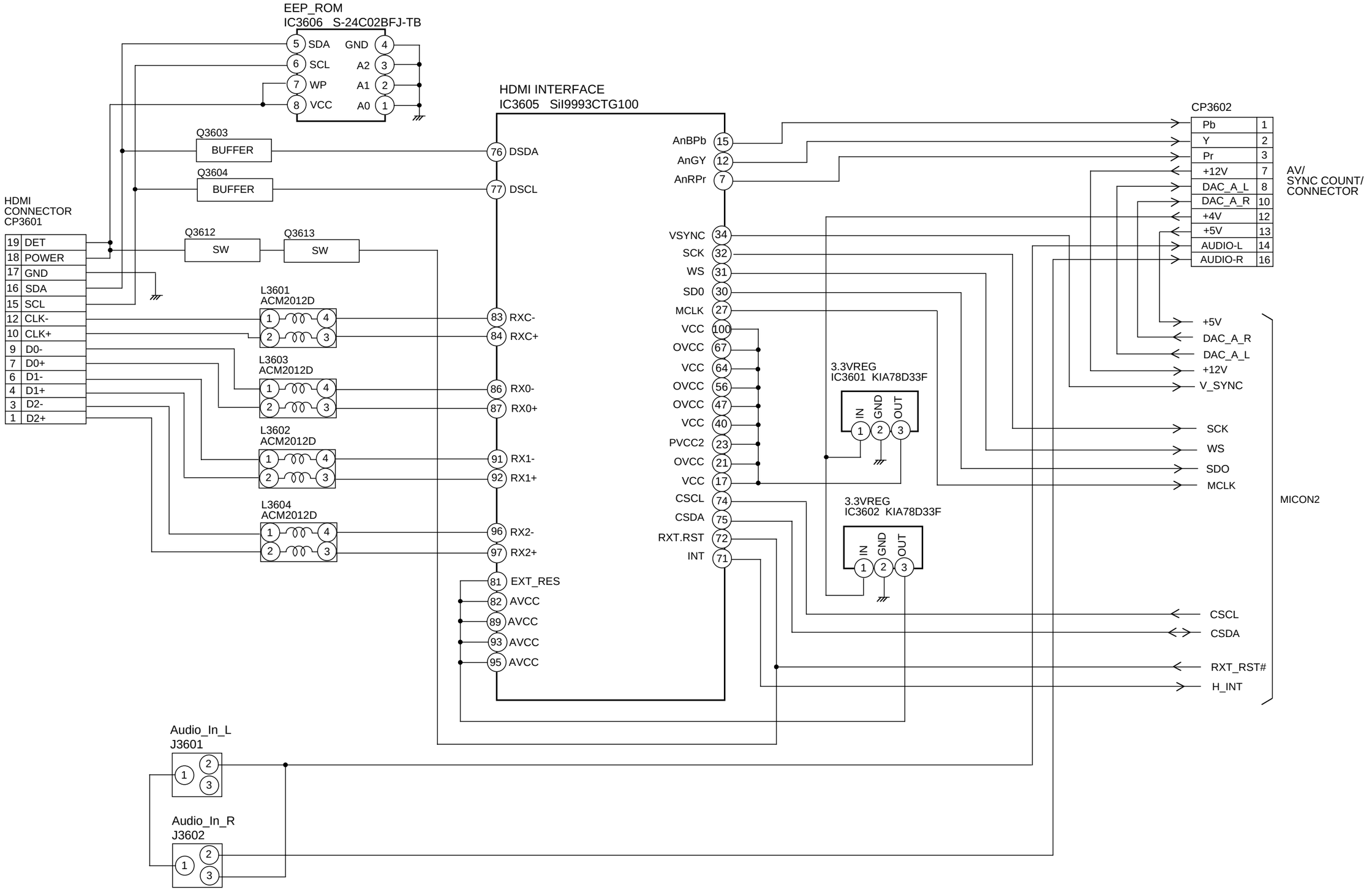
MICON1/STEREO BLOCK DIAGRAM



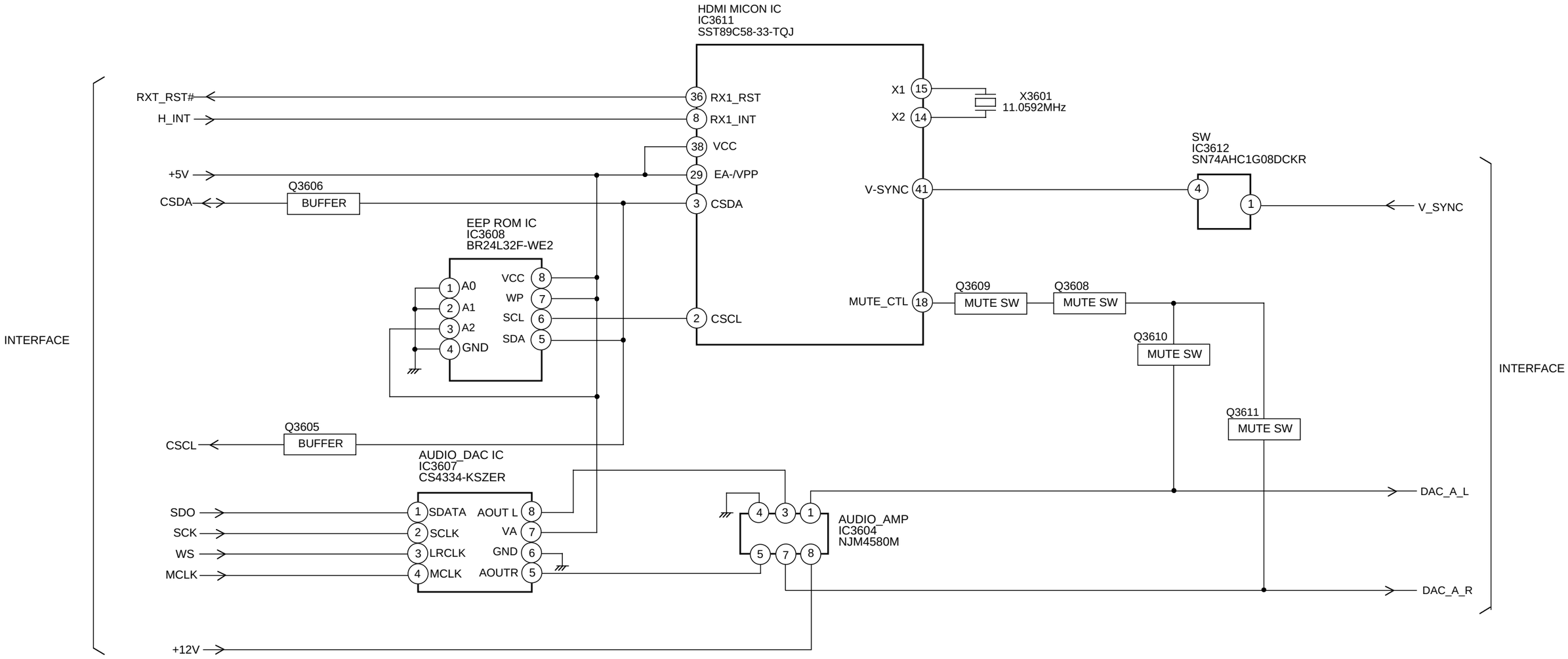
AV/SYNC COUNT/CONNECTOR BLOCK DIAGRM



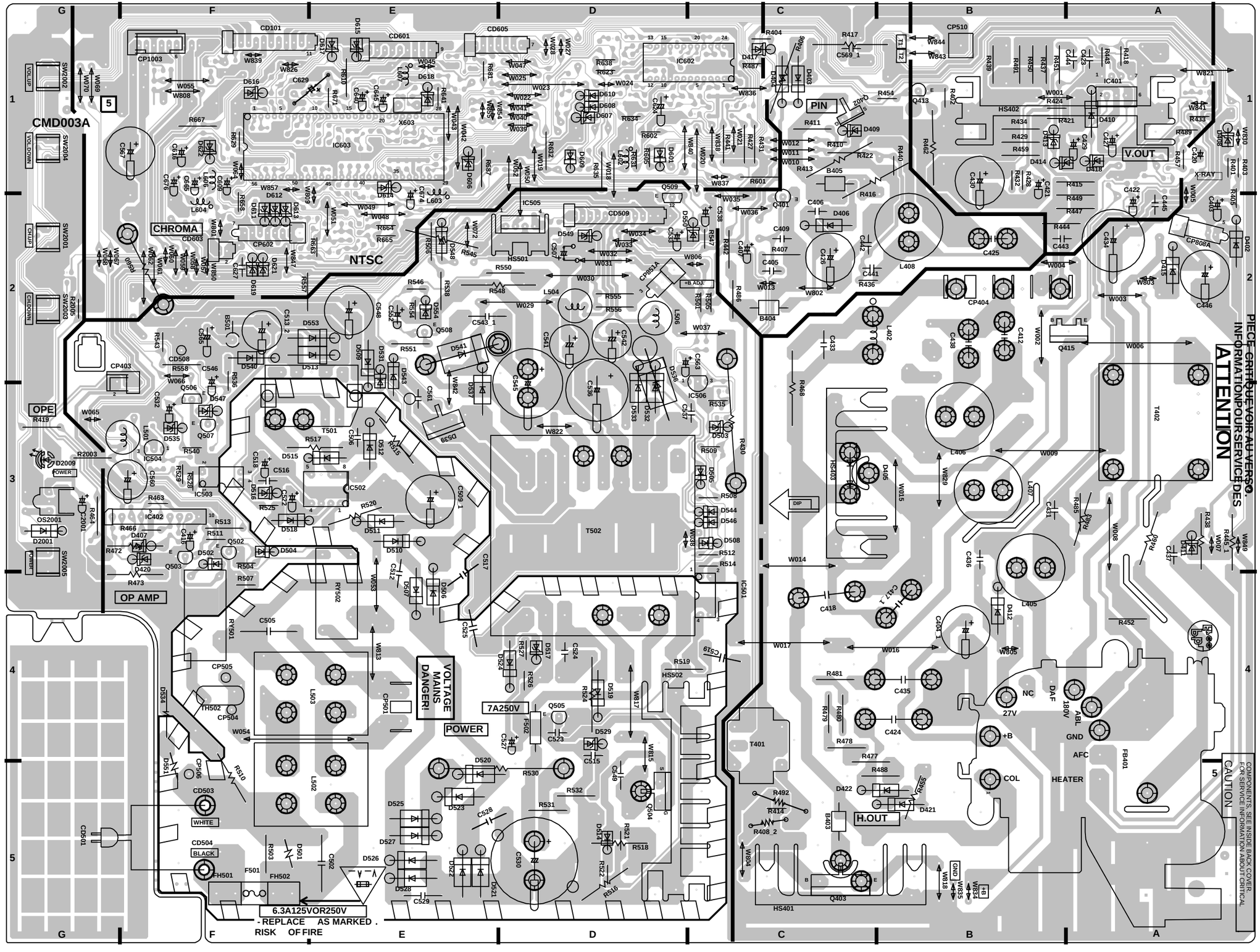
INTERFACE BLOCK DIAGRAM



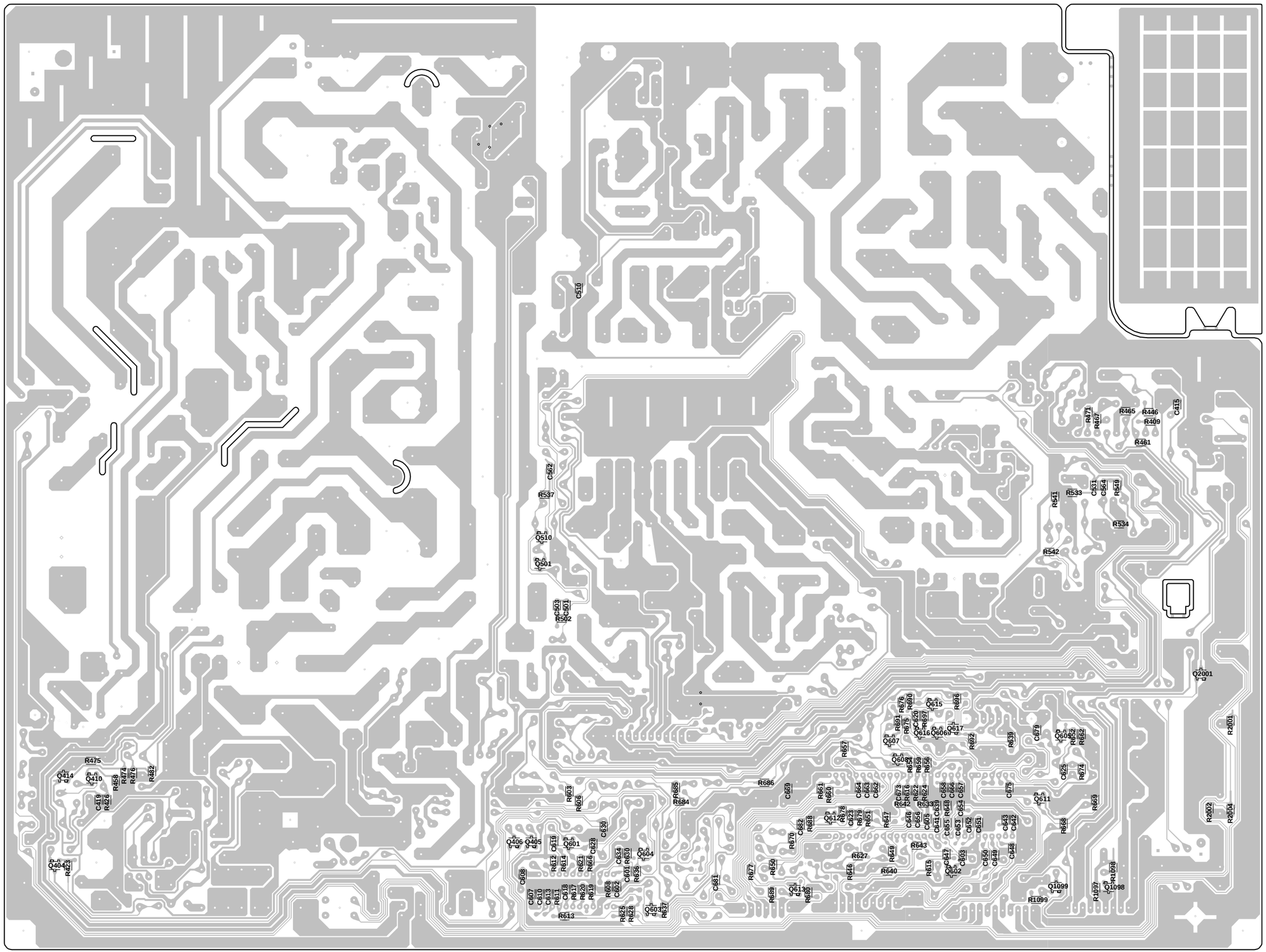
MICON2 BLOCK DIAGRAM



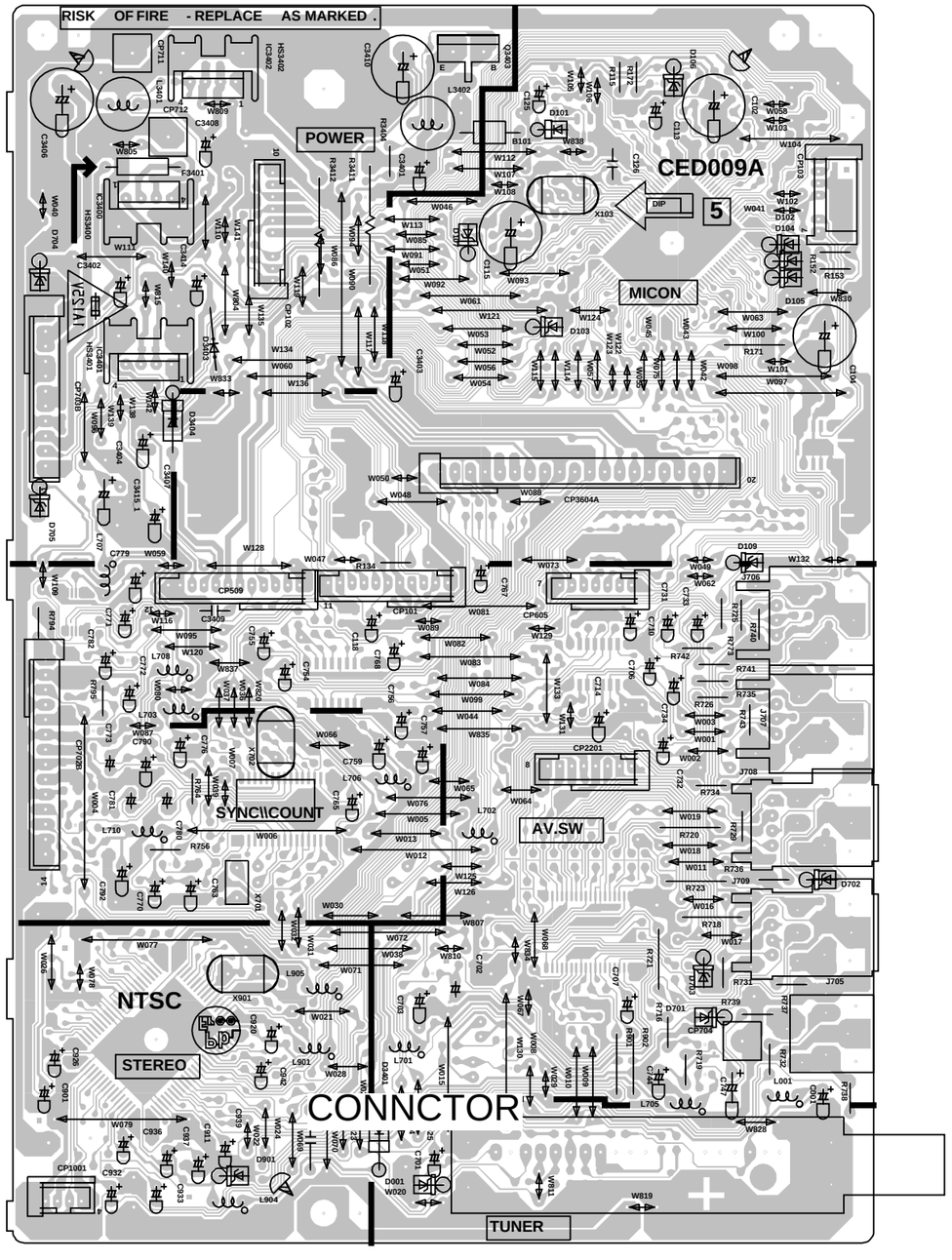
PRINTED CIRCUIT BOARDS
MAIN (INSERTED PARTS)
SOLDER SIDE



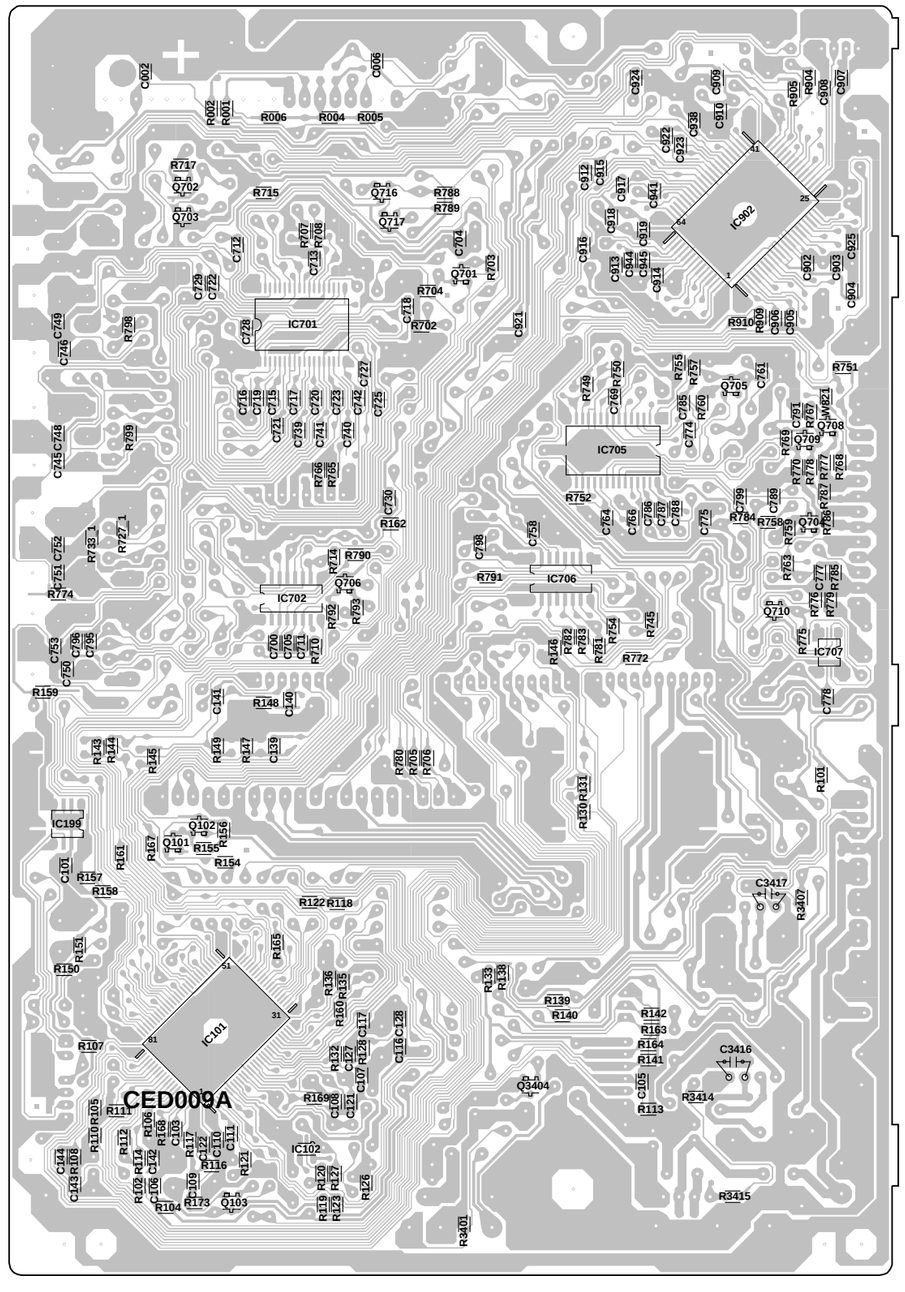
PRINTED CIRCUIT BOARDS
MAIN (CHIP MOUNTED PARTS)
SOLDER SIDE



AV(INSERTED PARTS)
SOLDER SIDE

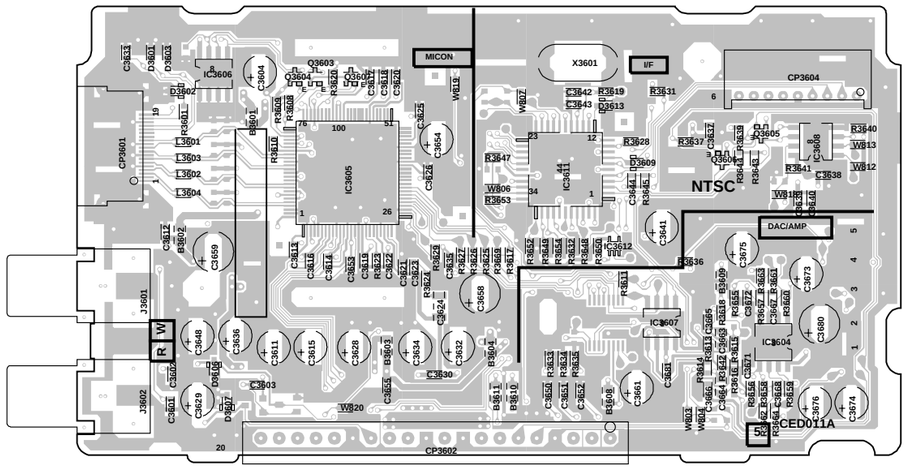


AV(CHIP MOUNTED PARTS)
SOLDER SIDE

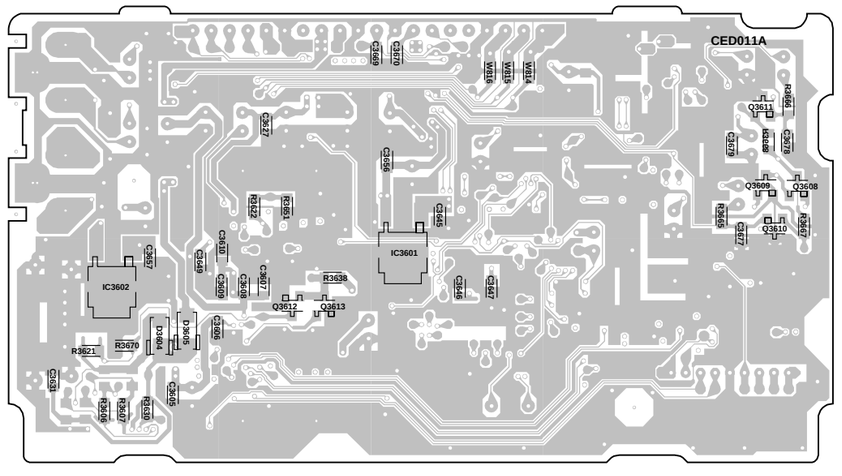


PRINTED CIRCUIT BOARDS

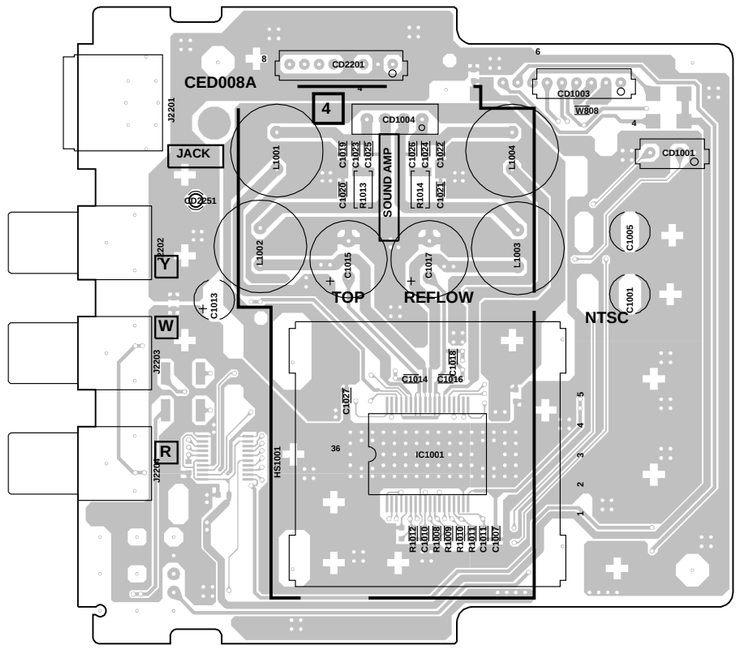
HD-MI (TOP SIDE)



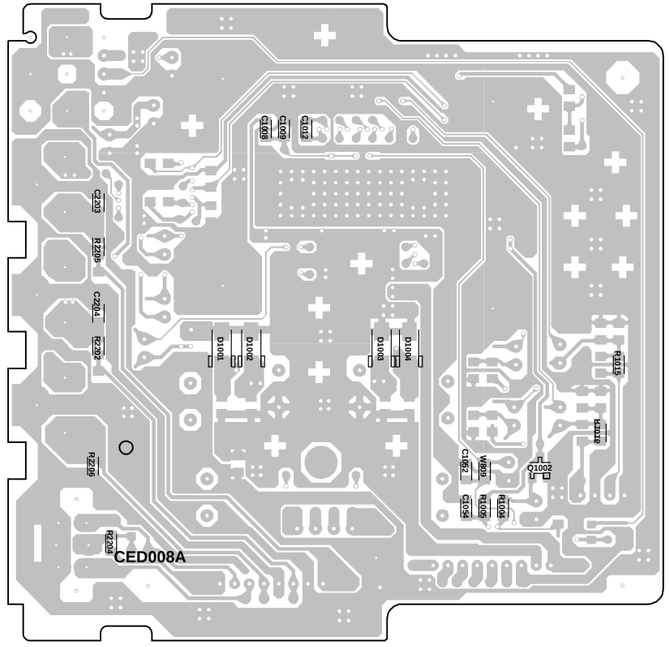
HD-MI (BOTTOM SIDE)



FRONT JACK (TOP SIDE)

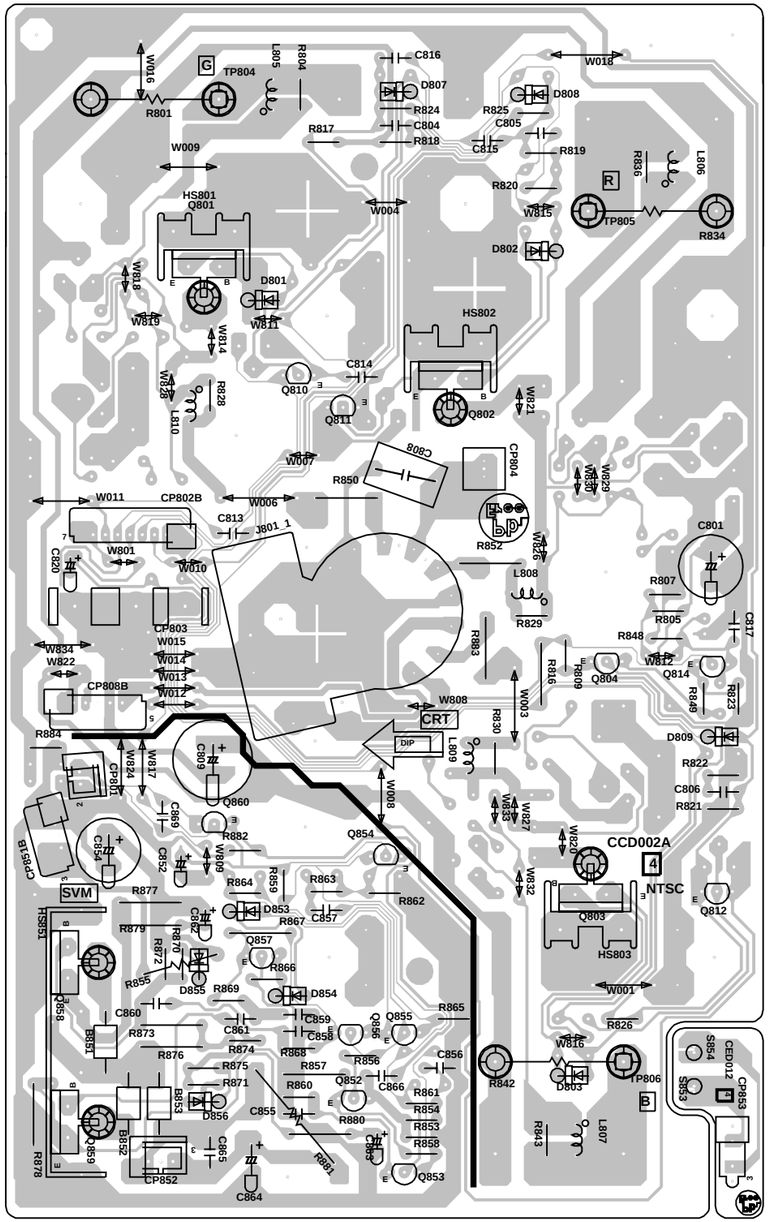


FRONT JACK (BOTTOM SIDE)

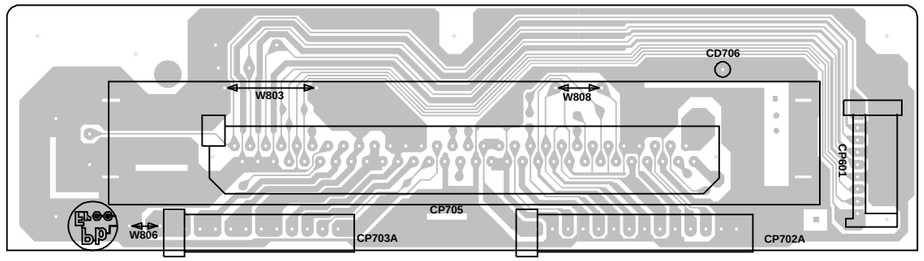


PRINTED CIRCUIT BOARDS

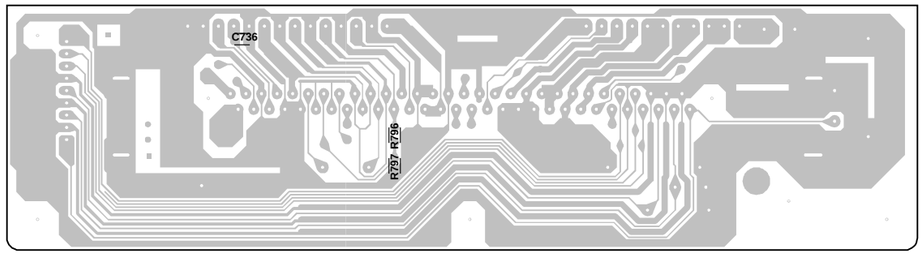
CRT
SOLDER SIDE



CONNECTOR (INSERTED PARTS)
SOLDER SIDE



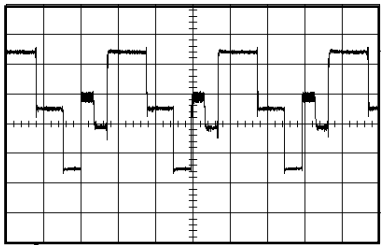
CONNECTOR (CHIP MOUNTED PARTS)
SOLDER SIDE



WAVEFORMS

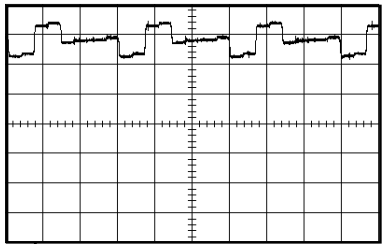
CHROMA/PROGRESSIVE/ PIN CUSHION

10µs
1.0V



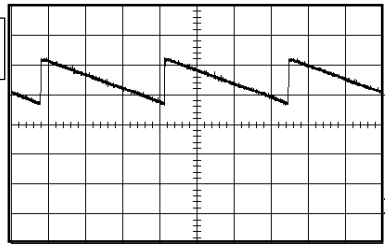
①

10µs
0.5V



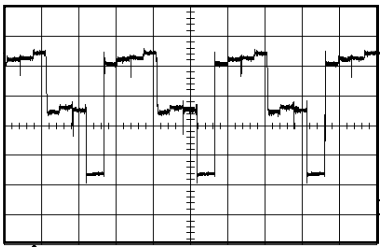
⑥

5ms
1.0V



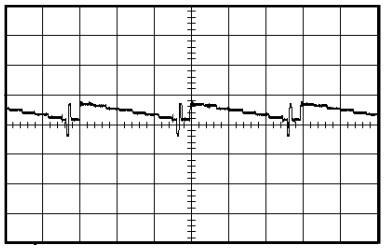
⑪

10µs
1.0V



②

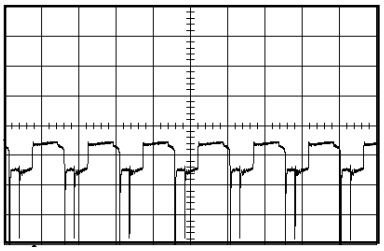
10µs
1.0V



⑦

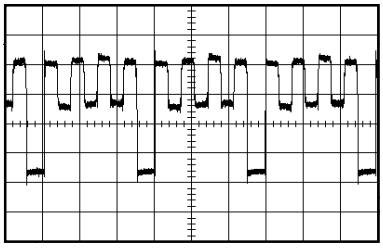
DEFLECTION

20µs
2.0V



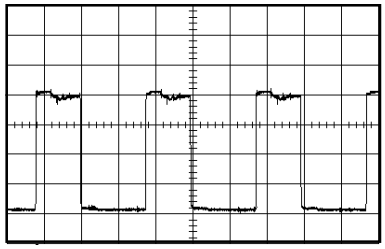
⑫

10µs
1.0V



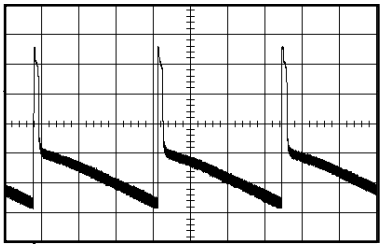
③

10µs
0.5V



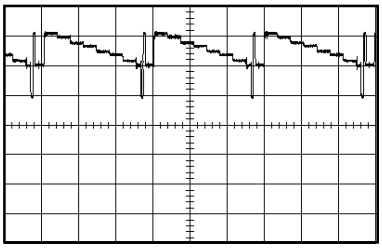
⑧

5ms
1.0V



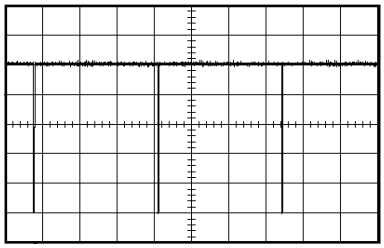
⑬

10µs
0.5V



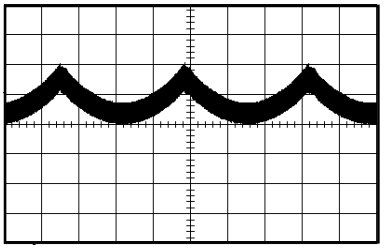
④

5ms
1.0V



⑨

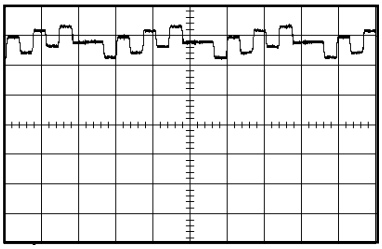
5ms
5.0V



⑭

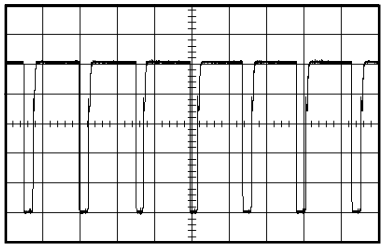
SOUND AMP/ FRONT AV

10µs
0.5V



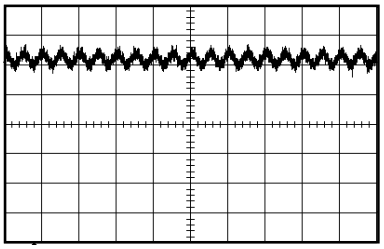
⑤

20µs
1.0V



⑩

5ms
200m



⑮

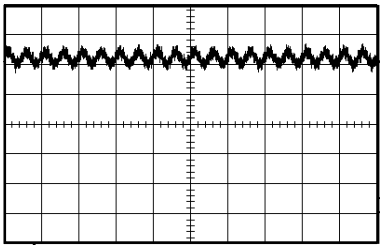
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

MICON1

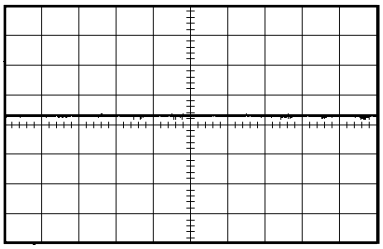
5ms
200m

⑯



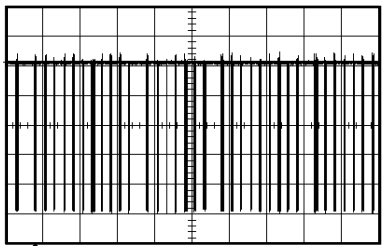
5ms
1.0V

㉑



20ms
1.0V

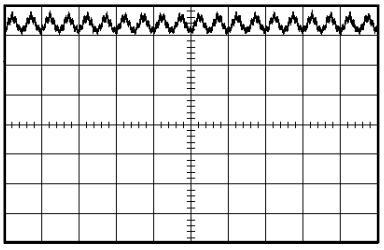
㉖



STEREO

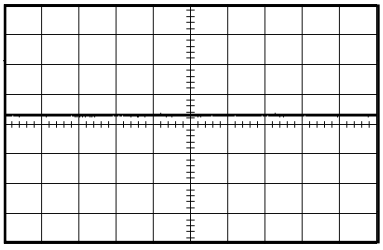
5ms
1.0V

⑰



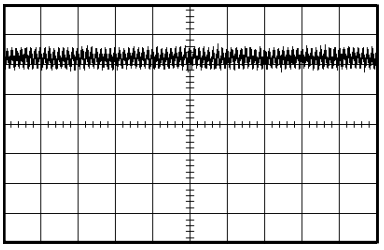
0.5ms
1.0V

㉒



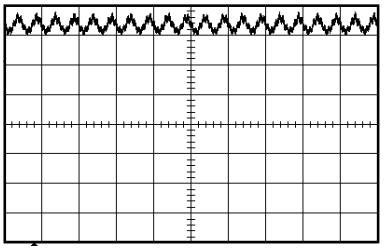
20ms
200mV

㉗



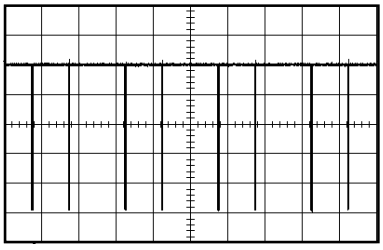
5ms
1.0V

⑱



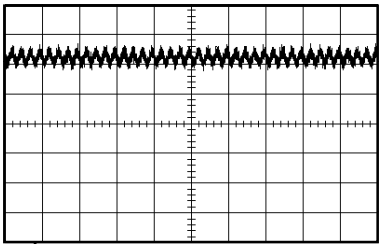
20ms
1.0V

㉓



10ms
200mV

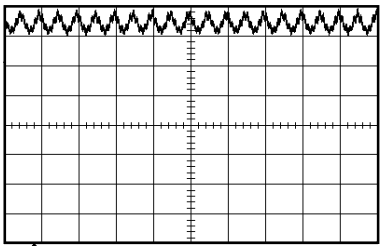
㉘



SYNC COUNT/ CONNECTOR

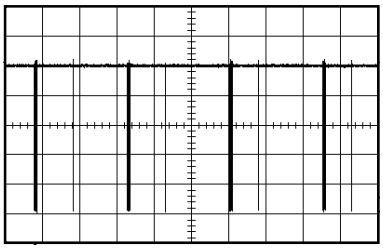
5ms
1.0V

⑲



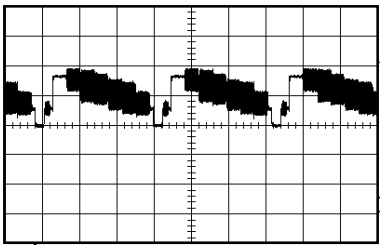
20ms
1.0V

㉔



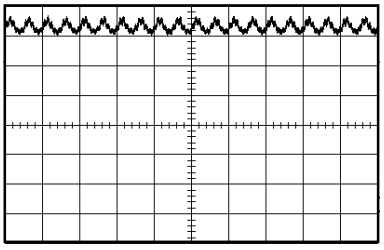
20µs
1.0V

㉙



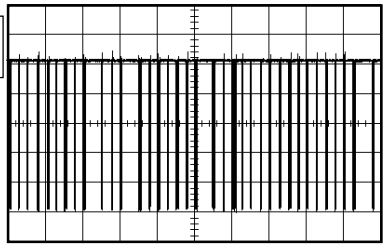
5ms
1.0V

⑳



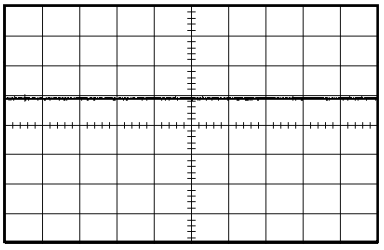
20ms
1.0V

㉕



20µs
1.0V

㉚

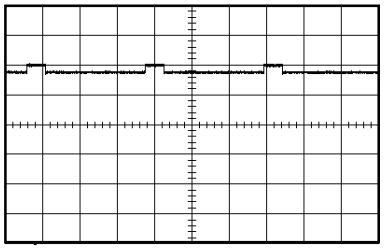


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

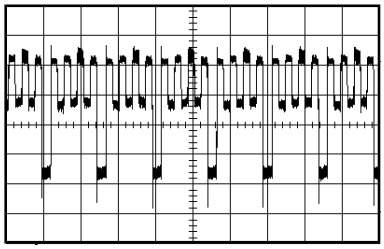
20µs
1.0V

(31)



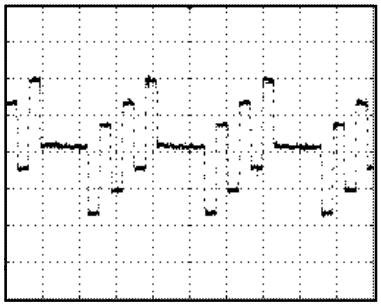
20µs
1.0V

(36)



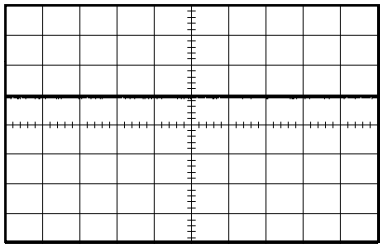
10µs
200mV

(41)



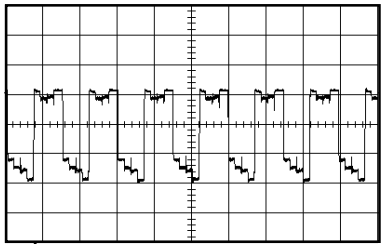
20µs
1.0V

(32)



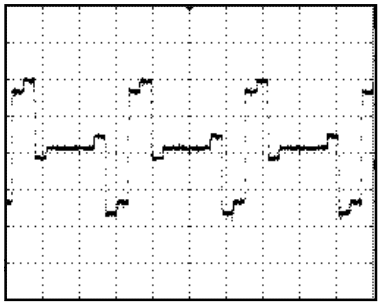
20µs
50V

(37)



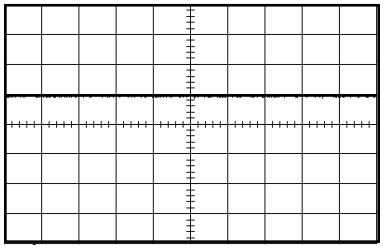
10µs
200mV

(42)



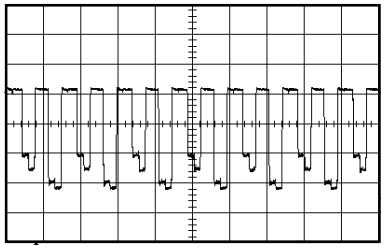
20µs
1.0V

(33)



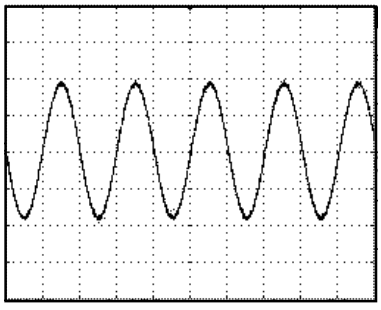
20µs
50V

(38)



500µs
200mV

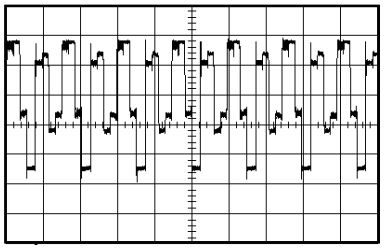
(43)



CRT/CVM

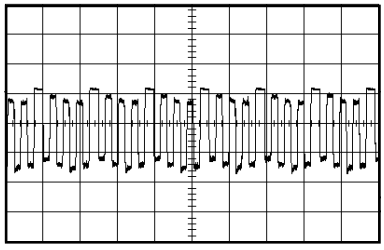
20µs
1.0V

(34)



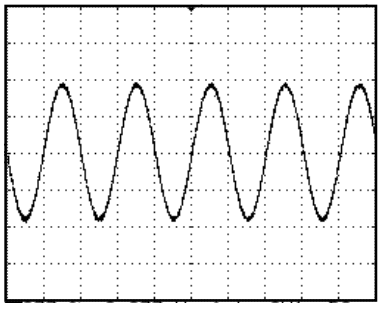
20µs
50V

(39)



500µs
200mV

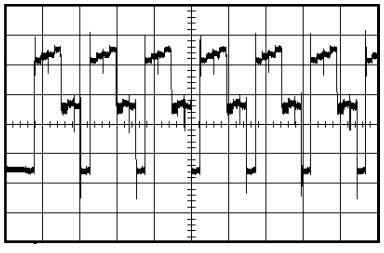
(44)



INTERFACE

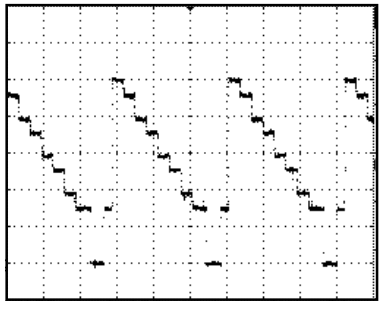
20µs
1.0V

(35)



10µs
200mV

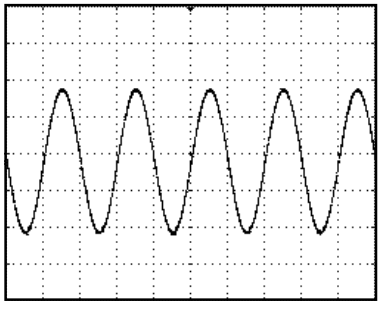
(40)



MICON2

500µs
1.0V

(45)

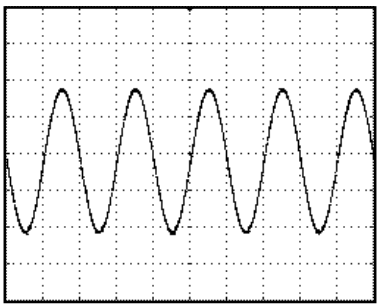


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

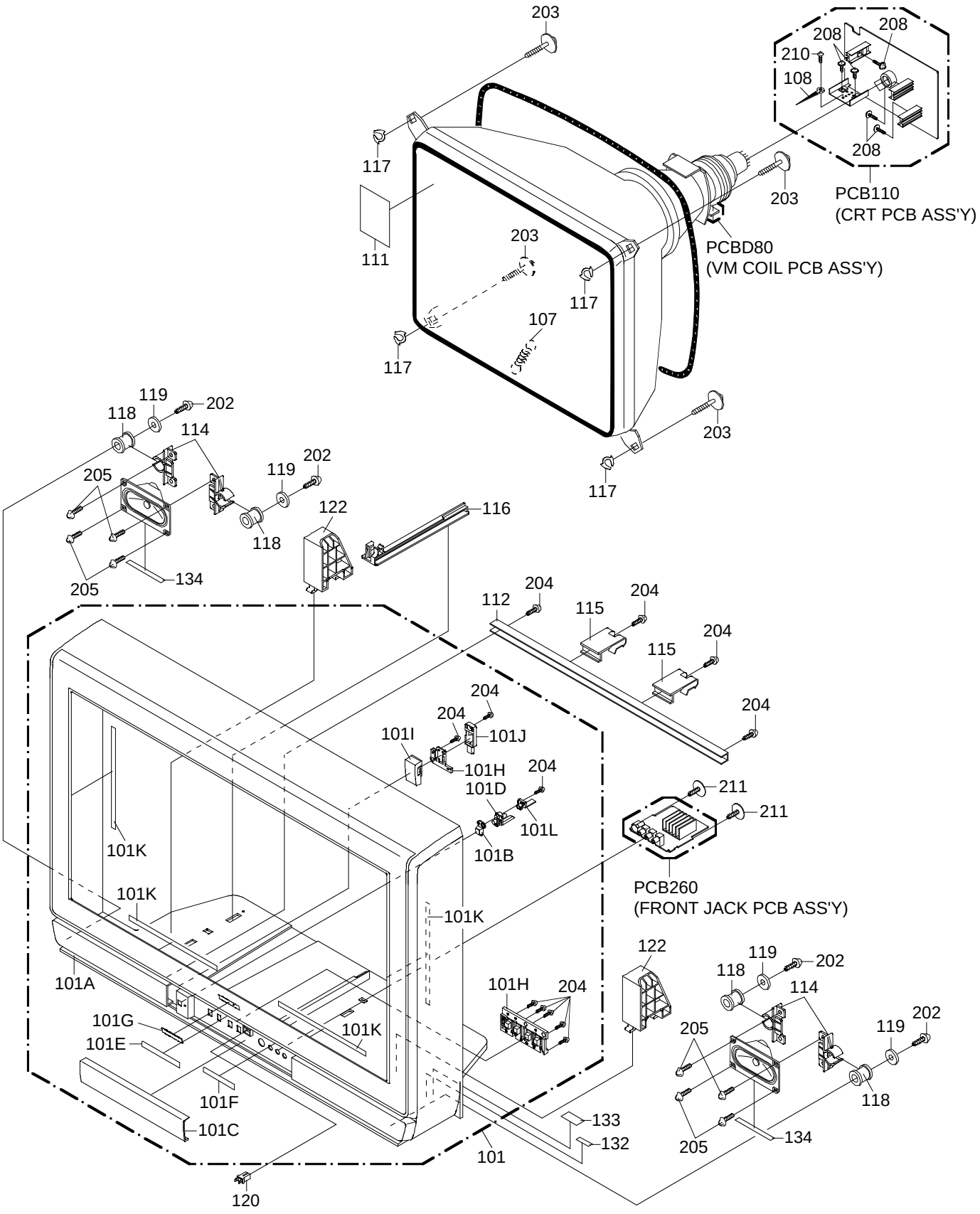
500µs
1.0V

46

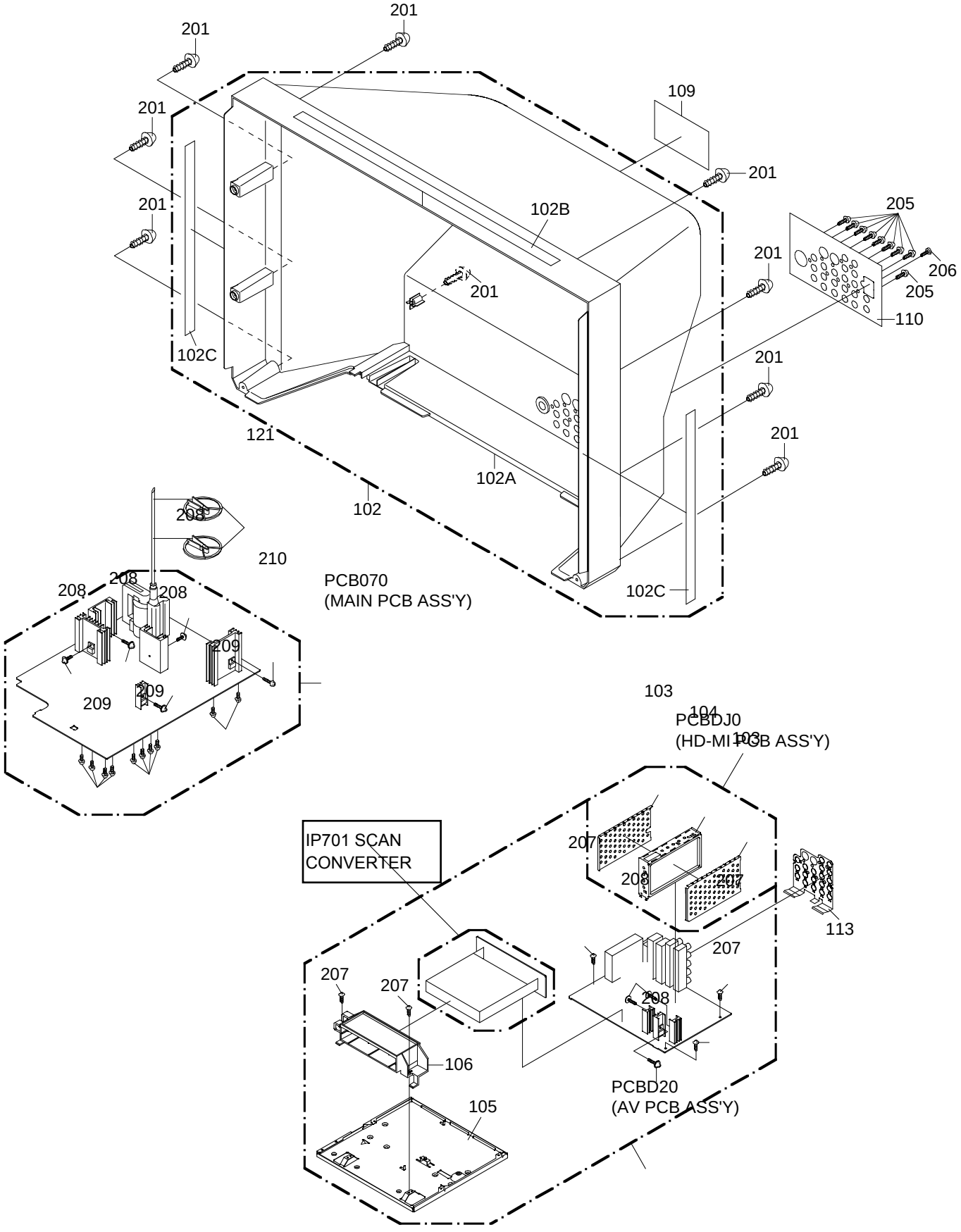


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

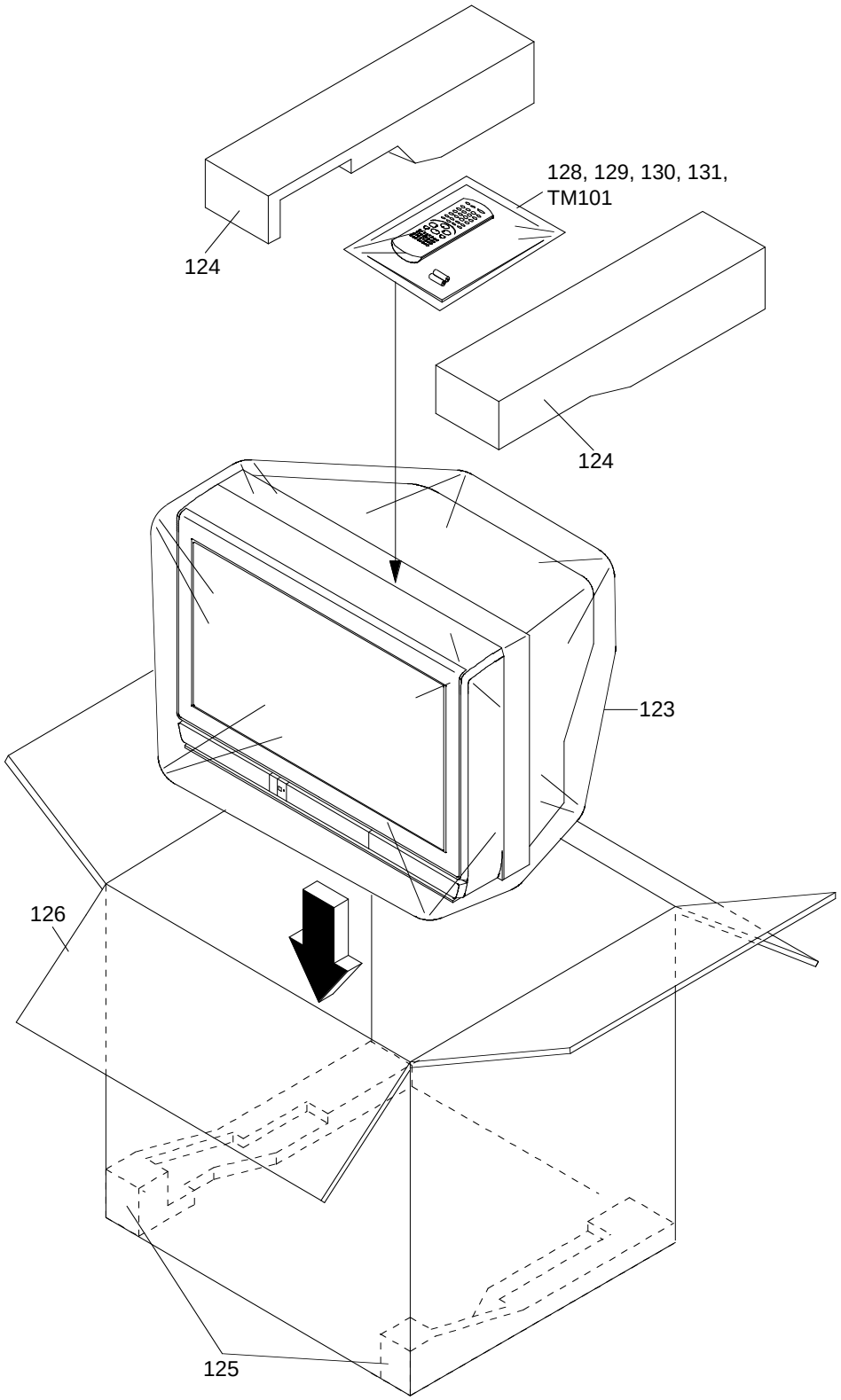
MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW
(PACKING DIAGRAM)



MECHANICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
101	AE005277	7A7010025B	FRONT CABI ASS'Y	
101A	AE004820	701WPJ1276	CABINET,FRONT	
101B	AE004821	711WPA0210	PLATE,FRONT	
101C	AE004822	712WPJ0870	DOOR	
101D	AE004823	713WPA0334	GUIDE,REMOCON	
101E	AE004824	7230007791	SHEET,BUTTON	
101F	AE004825	7230007792	AV LABEL	
101G	AD302008	7235490036	BADGE,BRAND	
101H	AE004826	735WPB0299	BUTTON,FRAME	
101I	AE004827	735WPJ0242	BUTTON,POWER	
101J	AE004828	738WPA0106	STOPPER,BUTTON	
101K	AE003110	800WQ0A052	FELT SHEET	
101L	AE004963	761WPA0344	HOLDER,LED	
102	AE004829	7A7020014A	BACK CABI ASS'Y	
102A	AE004830	702WPA1085	CABINET,BACK	
102B	AE003020	800WQ0A050	FELT SHEET	
102C	AD300520	800WQ00068	FELT SHEET	
103	AE004831	752WSA0413	HDMI SHIELD,COVER	
104	AE004832	752WSA0414	HDMI SHIELD,BOTTOM	
105	AE004833	752WSA0418	PLATE,BOTTOM	
106	AE004834	761WPA0331	HOLDER,MODULE	
107	BZ710660	741WUA0021	SPRING,EARTH	
108	BZ710039	8995034000	CORD CLIP UL CO.	
109	AE005278	7225490158	SHEET,RATING	
110	AE004836	7230007788	SHEET,JACK	
111	AE004837	7230007789	POP LABEL	
112	BZ710677	752WSA0287	ANGLE,FRONT	
113	AE004838	752WSA0433	SHIELD,AV JACK	
114	AE005207	761WPAA115	HOLDER,SPEAKER	
115	AE004839	761WPA0294	COIL HOLDER	
116	AE004840	761WPA0325	HOLDER,PCB RAIL	
117	AE004055	769WSA0016	WASHER CRT T=0.5	
118	AD300518	801WR00001	DAMPER,SPEAKER	
119	BZ710445	82A40B0104	FLAT WASHER	
120	AE004841	890DL20000	DOOR LATCHES(DL2)	
121	BZ710260	899HV3T000	HOLDER,ANODE WIRE	
122	AE005209	761WPA0334	HOLDER,CRT	
123	AE000636	791WHA0102	LAMIFILM,BAG	
124	AE004842	792WHA0552	PACKAGE,TOP	
125	AE004843	792WHA0553	PACKAGE,BOTTOM	
126	AE004844	793WCD1561	GIFT BOX	
127	AE004845	A3R4010975	INSTRUCTION BOOK KIT	
128	AD301213	JA4UD300	POLYBAG,INSTRUCTION(RED CAUTION)	
129	AE002854	J2A70617B	REGISTRATION CARD	
130	AE004846	J3R40121A	INSTRUCTION BOOK	
131	AE004971	J3R40129A	INFORMATION SHEET	
132	AE000007	7220001107	SHEET,HWC	
133	AE000006	7220001119	SHEET,CSA WARNING	
134	AE005279	800WF00062	CUSHION	55x5xT1
201	AE003522	8117540B0U	SCREW,TAP TITE(B0) TRUSS	4x20
202	AE004847	8117540A6U	SCREW,TAP TITE(B0) TRUSS	4x16
203	AE004848	8141H60D5U	SCREW,TAP TITE(P) GW20	6x45
204	AE003528	8110630A0U	SCREW,TAP TITE(P) BRAZIER	3x10
205	AE003529	811063080U	SCREW,TAP TITE(P) BRAZIER	3x8
206	AE005214	810213080U	SCREW,PAN	M3x8
207	AE003526	810923080U	SCREW,TAP TITE(B) BIND	3x8
208	AE003524	8109I30A0U	SCREW,TAP TITE(B) WH7	3x10
209	BZ710019	8109630802	SCREW,TAP TITE(B) BRAZIER	3x8
210	AE003531	810763080U	SCREW,TAP TITE(S) BRAZIER	3x8
211	AE004972	8159130A01	SCREW,TAPPING(B) WASHER12 PAN	3x10

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
		RESISTORS		
⚠R401	AE002516	R4X5T6222F	R,METAL	2.2K OHM 1/6W
⚠R403	BZ210105	R4X5T6183F	R,METAL	18K OHM 1/6W
⚠R405	BZ210231	R4X5T6153F	R,METAL	15K OHM 1/6W
⚠R406	AD300039	R3X18A680J	R,METAL OXIDE	68 OHM 2W
⚠R408	BZ210063	R3X181R22J	R,METAL OXIDE	0.22 OHM 1W
⚠R413	AD300040	R3X18A2R2J	R,METAL OXIDE	2.2 OHM 2W
⚠R416	AD300040	R3X18A2R2J	R,METAL OXIDE	2.2 OHM 2W
⚠R417	AD302132	R3X18A271J	R,METAL OXIDE	270 OHM 2W
⚠R429	BZ210053	R002T22R2J	RC	2.2 OHM 1/2W
⚠R430	AD300421	R5X2CF1R8J	R,CEMENT	1.8 OHM 10W
⚠R434	BZ210053	R002T22R2J	RC	2.2 OHM 1/2W
⚠R438	AE004809	R3X181332J	R,METAL	3.3K OHM 1W
⚠R445	AD301311	R655813R3J	R,FUSE	3.3 OHM 1W
⚠R455	BZ210021	R65582680J	R,FUSE	68 OHM 1/2W
R460	AE004808	R0G3K2221K	RC	220 OHM 1/2W
⚠R462	BZ210211	R3X28B221J	R,METAL OXIDE	220 OHM 3W
⚠R468	BZ210003	R3K181102J	R,METAL OXIDE	1K OHM 1W
⚠R472	AD302347	R3X181120J	R,METAL OXIDE	12 OHM 1W
⚠R473	AD302347	R3X181120J	R,METAL OXIDE	12 OHM 1W
⚠R483	AE000147	R3X181220J	R,METAL OXIDE	22 OHM 1W
R492	AE002520	R3X181100J	R,METAL OXIDE	10 OHM 1W
⚠R501	BZ210233	R4X5T6272F	R,METAL	2.7K OHM 1/6W
⚠R503	BZ210206	R002T2155J	RC	1.5M OHM 1/2W
⚠R508	AD301203	R002T4101J	RC	100 OHM 1/4W
⚠R510	BZ210080	R0G3K2275K	RC	2.7M OHM 1/2W
⚠R515	AE001883	R3X28A104J	R,METAL OXIDE	100K OHM 2W
⚠R516	BZ210243	R3X181R18J	R,METAL OXIDE	0.18 OHM 1W
⚠R517	BZ210190	R63581R22J	R,FUSE	0.22 OHM 1W
⚠R518	BZ210243	R3X181R18J	R,METAL OXIDE	0.18 OHM 1W
⚠R520	AD300784	R3X1811R2J	R,METAL OXIDE	1.2 OHM 1W
⚠R524	AE001073	R3X18A331J	R,METAL OXIDE	330 OHM 2W
⚠R530	AE004810	R5X2CF010J	R,CEMENT	1 OHM 10W
⚠R545	AE003270	R3X28B2R7J	R,METAL OXIDE	2.7 OHM 3W
⚠R548	BZ210051	R3X18AR47J	R,METAL OXIDE	0.47 OHM 2W
⚠R560	AE005234	R5X2AER47J	R,CEMENT	0.47 OHM 7W
⚠R801	BZ210154	R5X2CE332J	R,CEMENT	3.3K OHM 7W
⚠R834	BZ210154	R5X2CE332J	R,CEMENT	3.3K OHM 7W
⚠R842	BZ210154	R5X2CE332J	R,CEMENT	3.3K OHM 7W
R855	BZ210185	R65582151J	R,FUSE	150 OHM 1/2W
⚠R881	BZ210246	R3X18A181J	R,METAL OXIDE	180 OHM 2W
⚠R3411	AD301597	R3X18AR39J	R,METAL OXIDE	0.39 OHM 2W
⚠R3412	BZ210149	R3X18AR68J	R,METAL OXIDE	0.68 OHM 2W
		CAPACITORS		
⚠C403	BZ110195	E02LU8220M	CE	22 UF 100V
⚠C404	AE004798	E61DFB470M	CE	47 UF 160V
⚠C412	AE004366	P4J7F3304J	CMPP	0.3 UF 250V PMS
C417	AE000606	P3N1F5103J	CPP	0.01 UF 630V
⚠C418	AE004807	P4N8FK852H	CMPP	0.0085UF 1.5KV
C424	AE003039	P4N8FK682H	CMPP	0.0068UF 1.5KV
C425	AE004367	P4J7F3335J	CMPP	3.3 UF 250V PMS
C426	BZ110204	E0ELFD220M	CE	22 UF 250V
⚠C429	AD301434	E02LU4101M	CE	100 UF 35V
⚠C430	BZ110101	E5EZF3222M	CE	2200 UF 25V
C433	BZ110239	C03L0R7L2K	CC	330 PF 2KV R
⚠C434	BZ110124	E5EZF4222M	CE	2200 UF 35V
C435	AE003039	P4N8FK682H	CMPP	0.0068UF 1.5KV
C438	AE004933	P4J7F3333J	CMPP	0.033 UF 250V PMS
⚠C446	BZ110225	E5EZFD220M	CE	22 UF 250V
⚠C502	BZ110025	P2122B224M	CMP	0.22 UF 275V ECQUL
⚠C505	BZ110025	P2122B224M	CMP	0.22 UF 275V ECQUL
C507	AD301348	E02LU5100M	CE	10 UF 50V
⚠C509	BZ110084	E5EZFC220M	CE	22 UF 200V
C512	BZ110202	C0PLRR713K	CC	0.001 UF 2KV R
⚠C517	AE004934	CD39B0MH2K	CC	220 PF 250V
⚠C519	AE000950	CD39E0ME3M	CC	0.0015UF 250V
⚠C525	BZ110222	CD39E0MH3M	CC	0.0022UF 250V
⚠C528	BZ110226	C0JBB07H3K	CC	0.0022UF 2KV B
⚠C529	BZ110226	C0JBB07H3K	CC	0.0022UF 2KV B
⚠C530	AE003883	E51DFC102M	CE	1000 UF 200V
⚠C536	BZ110224	E5EZF3332M	CE	3300 UF 25V
C541	BZ110076	E02LF1222M	CE	2200 UF 10V

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
		CAPACITORS		
⚠C542	BZ110053	E02LF3102M	CE	1000 UF 25V
C543	AE005232	C0390R7L3K	CC	0.0033UF 2KV R
⚠C545	AE004799	E61SFC221M	CE	220 UF 200V
⚠C548	BZ110055	E5EZF4102M	CE	1000 UF 35V
C549	BZ110183	C03L0R7W2K	CC	820 PF 2KV R
C567	BZ110209	E0ELF3222M	CE	2200 UF 25V
C627	AE003975	P6M9W0104J	CMPL	0.1 UF 50V TF
C629	BZ110081	E02LT2471M	CE	470 UF 16V
C630	AE005281	P611T1473J	CMPL	0.047 UF 100V TF
C808	AE003828	C13DB0713K	CC	0.001 UF 2KV B
C809	AD301347	E0ELFD330M	CE	33 UF 250V
C3406	AE004935	E02LF0332M	CE	3300 UF 6.3V
		DIODES		
D001	BZ410037	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D101	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D102	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D103	BZ410064	D97U03R91B	DIODE,ZENER	MTZJ3.9B T-77
D104	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D105	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D106	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D107	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D109	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
⚠D402	BZ410063	D2WTAU02A0	DIODE,SILICON	AU02A-EIC
⚠D403	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
⚠D404	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
⚠D405	AE004792	DCBFMQ3GU0	DIODE	FMQ-3GULF027-102
D406	BZ410103	D2WXGP10J0	DIODE,RECTIFIER	RGP10J-EIC
D407	BZ410094	D97U01501B	DIODE,ZENER	MTZJ15B T-77
⚠D408	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D409	BZ410094	D97U01501B	DIODE,ZENER	MTZJ15B T-77
D410	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
D411	BZ410023	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
⚠D412	BZ410063	D2WTAU02A0	DIODE,SILICON	AU02A-EIC
D413	BZ410037	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D414	BZ410037	D97U03301B	DIODE,ZENER	MTZJ33B T-77
⚠D415	BZ410063	D2WTAU02A0	DIODE,SILICON	AU02A-EIC
D417	AE004359	D97U03901B	DIODE,ZENER	MTZJ39B T-77
D418	BZ410037	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D420	BZ410094	D97U01501B	DIODE,ZENER	MTZJ15B T-77
D421	AE004790	D2WX0216E0	DIODE,SILICON	RGP02-16E
D422	AE004790	D2WX0216E0	DIODE,SILICON	RGP02-16E
⚠D501	BZ410031	D6CE24110A	DIODE,VARISTA	ENE241D-10A-Q6
D502	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D503	AD302208	D97U03R31B	DIODE,ZENER	MTZJ3.3B T-77
D504	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D505	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D506	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
⚠D507	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D508	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D509	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
⚠D510	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
⚠D511	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D512	BZ410103	D2WXGP10J0	DIODE,RECTIFIER	RGP10J-EIC
D513	BZ410010	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
D514	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D515	BZ410011	D28TELS2N2	DIODE,RECTIFIER	10ELS2N-TA1B2
D516	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D517	AD300671	D97U01801B	DIODE,ZENER	MTZJ18B T-77
D518	BZ410011	D28TELS2N2	DIODE,RECTIFIER	10ELS2N-TA1B2
D519	AD300731	D2WXN49370	DIODE,SILICON	1N4937
⚠D520	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
⚠D521	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
⚠D522	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
⚠D523	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
⚠D524	AD300731	D2WXN49370	DIODE,SILICON	1N4937
⚠D525	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
⚠D526	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
⚠D527	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
⚠D528	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
D529	AD300671	D97U01801B	DIODE,ZENER	MTZJ18B T-77
D531	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
		DIODES		
⚠D532	BZ410010	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
⚠D533	BZ410010	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
⚠D534	AE003872	DOU002720M	DIODE,VARISTA	DSS-272M-S00B
D535	AE003870	D97U04R31B	DIODE,ZENER	MTZJ4.3B T-77
⚠D536	AD301980	D2CF2016L0	DIODE,SILICON	FE201-6L49
⚠D537	BZ410010	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
⚠D539	BZ410091	D230PF6DT0	DIODE,SILICON	FEPF6DT
D540	AD300731	D2WXN49370	DIODE,SILICON	1N4937
⚠D541	AD301980	D2CF2016L0	DIODE,SILICON	FE201-6L49
D543	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D544	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D546	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D547	BZ410084	D97U01101B	DIODE,ZENER	MTZJ11B T-77
D548	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D549	BZ410037	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D550	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
⚠D551	AE004936	D6E027110A	DIODE,VARISTA	ENE271D-10A
⚠D553	BZ410010	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
D554	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D601	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D606	AE004358	D97U02R01B	DIODE ZENER	MTZJ2.0B T-77
D607	AD300069	D97U02701B	DIODE,ZENER	MTZJ27B T-77
D608	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D609	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D610	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D611	BZ410023	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
D612	BZ410023	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
D613	BZ410023	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
D614	AD300070	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D615	BZ410023	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
D616	BZ410023	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
D617	BZ410023	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
D618	AD300070	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D619	AD300070	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D621	BZ410034	D97U01301B	DIODE,ZENER	MTZJ13B T-77
D622	AD300070	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D701	BZ410058	D97U08R21B	DIODE,ZENER	MTZJ8.2B T-77
D702	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D703	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D704	BZ410022	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D705	BZ410084	D97U01101B	DIODE,ZENER	MTZJ11B T-77
D801	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D802	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D803	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D807	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D808	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D809	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D853	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D854	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D855	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D856	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D901	AD300070	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D1001	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D1002	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D1003	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D1004	AE004643	D28R1QS040	DIODE	EC31QS04-TE12L
D2001	BZ410073	D28TEQS040	DIODE,SCHOTTKY	11EQS04TA1B2
D2009	BZ410054	0021721150	LED	SLR-342VCT32
D3401	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
D3403	BZ410010	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
D3404	BZ410010	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
D3601	AE004937	D77R1A1R10	DIODE,VARISTA	AVRL161A1R1NT
D3602	AE004795	DE7RB5R62B	DIODE,ZENER	UDZS5.6B TE-17
D3603	AE004937	D77R1A1R10	DIODE,VARISTA	AVRL161A1R1NT
D3604	AE004793	DD7R60L400	DIODE,SCHOTTKY	RB160L-40-TE25
D3605	AE004793	DD7R60L400	DIODE,SCHOTTKY	RB160L-40-TE25
D3606	AE004796	DE7RB6R82B	DIODE,ZENER	UDZS6.8B TE-17
D3607	AE004796	DE7RB6R82B	DIODE,ZENER	UDZS6.8B TE-17
D3609	AE004794	DE7RB3R32B	DIODE,ZENER	UDZS3.3B TE-17
D3613	AE004794	DE7RB3R32B	DIODE,ZENER	UDZS3.3B TE-17

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
		ICS		
IC101	AE004804	I56F57111A	IC	OEC7111A
IC102	79097849	I9UF032290	IC	PST3229NR
IC199	AE004811	S3R4010E01	MEMORY DATA	BR24L64F-WE2
⚠IC401	BZ611117	I03TD80410	IC	LA78041
⚠IC402	AD302356	I03S065100	IC	LA6510
⚠IC501	AE002809	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
⚠IC502	AE003907	I0BD061590	IC	STR-A6159
⚠IC503	AE002809	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
⚠IC504	AE002834	I0CJ9AILP0	IC	TL431AILP
⚠IC505	AD301929	I1KA78R090	IC	KIA278R09PI
⚠IC506	AD302211	I1KJ9A431A	IC	KIA431A-AT
IC602	AE004361	I05DD13170	IC	TA1317ANG
IC603	AE004362	I05DE13600	IC	TA1360ANG
IC701	AE002728	I01F05853B	IC	AN15853B-E1
IC702	AE004651	I0QF025840	IC	NJM2584AM(TE1)
IC705	AE004800	I05FE13830	IC	TA1383FG
IC706	AE004651	I0QF025840	IC	NJM2584AM(TE1)
IC707	BZ611104	I0QF02533V	IC	NJM2533V(TE2)
IC902	AE004801	I19FF34400	IC	MSP3440G-QA-C12
IC1001	AE004803	I1MFP20240	IC	TA2024B
⚠IC3400	BZ611089	I1KA98R09A	IC	KIA78R09API
⚠IC3401	AD301931	I1KA78R050	IC	KIA278R05PI
⚠IC3402	AE003914	I1KA98R330	IC	KIA278R33PI
IC3601	AE004654	I1KF98D330	IC	KIA78D33F
IC3602	AE004654	I1KF98D330	IC	KIA78D33F
IC3604	AE001295	I0QJ045800	IC	NJM4580M(TE1)
IC3605	AE004805	I5PF099930	IC	SII9993CTG100
IC3606	AE004812	S3R4010E02	MEMORY DATA	S-24C02BFJ-TB
IC3607	AE004802	I1FF043340	IC	CS4334-KSZR
IC3608	AE004813	S3R4010E03	MEMORY DATA	BR24L32F-WE2
IC3611	AE004806	ICMF09C580	IC	SST89C58-33C-TQJ
IC3612	AE003923	I5CF01G080	IC	SN74AHC1G08DCKR
		TRANSISTORS		
Q101	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q102	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q103	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
⚠Q401	AE004385	TC5TC3328Y	TRANSISTOR,SILICON	2SC3328_Y(TPE6_F)
⚠Q402	AE004814	T250029200	FET	2SK2920(Q)
⚠Q403	AE004386	TCKF059040	TRANSISTOR,SILICON	2SC5904000LI
Q404	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q405	BZ510020	TNYJB05001	COMPOUND TRANSISTOR	DTC114EKAT146
Q406	BZ510020	TNYJB05001	COMPOUND TRANSISTOR	DTC114EKAT146
Q410	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q413	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q414	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q415	AE004817	TC3F046340	TRANSISTOR,SILICON	2SC4634
Q501	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q502	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q503	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
⚠Q504	AE004387	TJXG15NK50	FET	STP15NK50ZFP
⚠Q505	BZ510070	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
Q506	BZ510087	TCAT032070	TRANSISTOR,SILICON	KTC3207-AT
Q507	BZ510073	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)
⚠Q508	BZ510004	TA3T016240	TRANSISTOR,SILICON	2SA1624-AA
⚠Q509	BZ510105	TCAT03209Y	TRANSISTOR,SILICON	KTC3209_Y-AT
Q510	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q601	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q602	BZ510001	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q603	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q604	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q605	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q606	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q607	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q608	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q611	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q612	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q613	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q615	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q616	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q617	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q701	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
		TRANSISTORS		
Q702	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q703	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q704	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q705	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q706	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q708	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q709	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q710	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q716	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q717	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
⚠Q801	AE004383	TC30040750	TRANSISTOR,SILICON	2SC4075D/E
⚠Q802	AE004383	TC30040750	TRANSISTOR,SILICON	2SC4075D/E
! Q803	AE004383	TC30040750	TRANSISTOR,SILICON	2SC4075D/E
Q804	BZ510073	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)
⚠Q810	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
⚠Q811	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
⚠Q812	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q814	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q852	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q853	AE004818	TCUT0752GY	TRANSISTOR,SILICON	2SC752(G)TM_Y(TP2
Q854	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q855	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q856	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q857	BZ510073	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)
Q858	AE004815	TA10021400	TRANSISTOR,SILICON	2SA2140
Q859	AE004816	TC10059930	TRANSISTOR,SILICON	2SC5993
Q860	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q1002	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q1098	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q1099	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q2001	BZ510067	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
⚠Q3403	AD301934	TBA0013660	TRANSISTOR,SILICON	KTB1366(O,Y)
Q3404	BZ510022	TNYJJ05001	COMPOUND TRANSISTOR	DTC114TKAT146
Q3603	BZ510113	T27T030180	FET	2SK3018
Q3604	BZ510113	T27T030180	FET	2SK3018
Q3605	BZ510113	T27T030180	FET	2SK3018
Q3606	BZ510113	T27T030180	FET	2SK3018
Q3607	BZ510113	T27T030180	FET	2SK3018
Q3608	BZ510081	TPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146
Q3609	BZ510045	TNYJD05001	COMPOUND TRANSISTOR	DTC144EKAT146
Q3610	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q3611	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q3612	BZ510045	TNYJD05001	COMPOUND TRANSISTOR	DTC144EKAT146
Q3613	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
		COILS &TRANSFORMERS		
L001	AE002347	021673220K	COIL	22 UH
L402	AE004749	022R00042A	COIL,LINEARITY	ELH5L7150N
L405	AE004330	02D3000064	COIL,CHOKE	ELC18B821LM
L406	AE004329	02D3000063	COIL,CHOKE	ELC18B151LK
L407	AE004329	02D3000063	COIL,CHOKE	ELC18B151LK
L408	AE004751	02D3000069	COIL,CHOKE	ELC18B103LM
L501	BZ310150	02167E220K	COIL	R7 22 UH
⚠L502	AE004327	029X000118	COIL,LINE FILTER	SS28V-R25080-CH
⚠L503	AE004327	029X000118	COIL,LINE FILTER	SS28V-R25080-CH
L504	BZ310150	02167E220K	COIL	R7 22 UH
L505	BZ310118	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
L506	BZ310150	02167E220K	COIL	R7 22 UH
L602	BZ310039	02167F220J	COIL	22 UH
L603	BZ310039	02167F220J	COIL	22 UH
L604	BZ310039	02167F220J	COIL	22 UH
L606	BZ310183	021LA6220J	COIL	22 UH
L607	BZ310039	02167F220J	COIL	22 UH
L651	BZ310118	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
L701	BZ310040	02167F470J	COIL	47 UH
L702	BZ310040	02167F470J	COIL	47 UH
L703	BZ310040	02167F470J	COIL	47 UH
L705	BZ310041	02167F101J	COIL	100 UH
L706	BZ310040	02167F470J	COIL	47 UH
L707	BZ310040	02167F470J	COIL	47 UH
L708	BZ310040	02167F470J	COIL	47 UH
L710	BZ310040	02167F470J	COIL	47 UH

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
		COILS &TRANSFORMERS		
L805	BZ310001	021673101J	COIL	100 UH
L806	BZ310002	021673101K	COIL	100 UH
L807	BZ310002	021673101K	COIL	100 UH
L808	AD300613	02167F150J	COIL	15 UH
L809	AD300613	02167F150J	COIL	15 UH
L810	AD300613	02167F150J	COIL	15 UH
L901	BZ310141	02167F100J	COIL	10 UH
L904	BZ310141	02167F100J	COIL	10 UH
L905	BZ310141	02167F100J	COIL	10 UH
L1001	AE004748	021W0G100M	COIL	10 UH
L1002	AE004748	021W0G100M	COIL	10 UH
L1003	AE004748	021W0G100M	COIL	10 UH
L1004	AE004748	021W0G100M	COIL	10 UH
L1005	BZ310118	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
L3401	BZ310150	02167E220K	COIL	R7 22 UH
L3402	BZ310150	02167E220K	COIL	R7 22 UH
L3601	AE004752	02D6000068	COIL,CHOKE	ACM2012D-900-2P-T00
L3602	AE004752	02D6000068	COIL,CHOKE	ACM2012D-900-2P-T00
L3603	AE004752	02D6000068	COIL,CHOKE	ACM2012D-900-2P-T00
L3604	AE004752	02D6000068	COIL,CHOKE	ACM2012D-900-2P-T00
T401	AE004332	0450190181	TRANS,HORIZONTAL DRIVE	ETH19K208AZ
⚠T402	AE004755	0486290014	TRANSFORMER,PULSE	86290014
⚠T501	AE004942	048119003S	TRANSFORMER,SWITCHING	8119003S
⚠T502	AE004754	048149002S	TRANSFORMER,SWITCHING	8149002S
		JACKS		
J705	AE002759	060J431020	RCA JACK	MSP-213V2-432_NI_LF
J706	AE004759	060Q431019	RCA JACK	YKC21-7306N
J707	AE004759	060Q431019	RCA JACK	YKC21-7306N
J708	AE004760	063D000078	JACK PLATE	MSP-803V-BBA-432_NI_LF
J709	AE004760	063D000078	JACK PLATE	MSP-803V-BBA-432_NI_LF
⚠J801	AE004762	066F130022	SOCKET,CATHODE RAY	TUBE ISDW03S-F
J2201	AE004761	063D700010	JACK	MDC-012V1-A_LF
J2202	AE004756	060J401104	RCA JACK	MTJ-032-03A-30FE
J2203	AE004758	060J401106	RCA JACK	MTJ-032-03A-32FE
J2204	AE004757	060J401105	RCA JACK	MTJ-032-03A-31FE
J3601	AE002950	060J421037	RCA JACK	MTJ-032-05A-32-FE
J3602	AE002951	060J421030	RCA JACK	MTJ-032-05A-31-FE
		SWITCHES		
SW2001	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2002	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2003	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2004	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2005	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
		P.C.BOARD ASSEMBLIES		
PCB070	AE004783	A3R4010070	PCB ASS'Y	CMD003A
PCB110	AE004784	A3R4010110	PCB ASS'Y	CCD002A
PCB260	AE004785	A3R4010260	PCB ASS'Y	CED008A
PCBD20	AE004786	A3R4010D20	PCB ASS'Y	CED009A
PCBD80	AE004787	A3R4010D80	PCB ASS'Y	CED012A
PCBDI0	AE004788	A3R4010DI0	PCB ASS'Y	CED010A
PCBDJ0	AE004789	A3R4010DJ0	PCB ASS'Y	CED011A
		MISCELLANEOUS		
B101	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B403	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B404	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B405	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B501	BZ310129	024HT03564	CORE,BEADS	W4BRH3.5X6X1.0
B851	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B852	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B853	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B3601	AE004602	024HC36001	CORE,BEADS	HCB2012K-600T25
B3602	AE004602	024HC36001	CORE,BEADS	HCB2012K-600T25
B3603	AE004602	024HC36001	CORE,BEADS	HCB2012K-600T25
B3604	AE004602	024HC36001	CORE,BEADS	HCB2012K-600T25
B3608	AE004602	024HC36001	CORE,BEADS	HCB2012K-600T25
B3609	AE004602	024HC36001	CORE,BEADS	HCB2012K-600T25
B3610	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B3611	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
BT001	AD302369	141L003010	BATTERY,MANGAN	R6P(AR)XICI
BT002	AD302369	141L003010	BATTERY,MANGAN	R6P(AR)XICI
CD101	AE003640	06CU2B3301	CORD,CONNECTOR	CU2B3301

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
		MISCELLANEOUS		
⚠CD501	AE004781	1209415909	CORD,AC BUSH	9415909
⚠CD507	AE004750	028R300001	COIL,DEGAUSS	8R300001
CD508	AE004951	06CU016001	CORD,CONNECTOR	CU016001
CD509	AD301550	06CU2C2501	CORD,CONNECTOR	CU2C2501
CD601	AE004776	06CU291901	CORD,CONNECTOR	CU291901
CD603	AE004338	06CU225201	CORD,CONNECTOR	CU225201
CD605	AE004952	06CU273301	CORD,CONNECTOR	CU273301
CD706	AE004337	06CU012501	CORD,CONNECTOR	CU012501
CD802	AE005242	WEL6857038	FLAT CABLE AWM2468 A	WG26 7C GRAY 570MM
CD803	BZ614232	06CP83035A	CORD,CONNECTOR	CP83035A
CD807	AE004953	06CU013005	CORD,CONNECTOR	CU013005
CD808	AE005243	WCL6847038	FLAT CABLE AWM2468 A	WG26 5C GRAY 470MM
CD852	AD301043	06CU232001	CORD,CONNECTOR	CU232001
CP101	BZ614214	069S2B0629	CONNECTOR PCB SIDE	A2001WV2-11P
CP102	BZ614213	069S2A0629	CONNECTOR PCB SIDE	A2001WV2-10P
CP103	AE001188	069S270639	CONNECTOR PCB SIDE	A2001WR2-7P
CP403	BZ614365	069S120419	CONNECTOR PCB SIDE	A2502WV2-2P
⚠CP404	BZ614240	069X460029	CONNECTOR PCB SIDE	B06B-DVS
⚠CP501	BZ614283	069S420110	CONNECTOR PCB SIDE	A1561WV2-2P
CP504	BZ614444	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP505	BZ614444	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP506	BZ614444	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP509	AD301554	069S2C0629	CONNECTOR PCB SIDE	A2001WV2-12P
CP510	BZ614444	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP601	BZ614239	069S290639	CONNECTOR PCB SIDE	A2001WR2-9P
CP602	AD301997	067U007029	WIRE HOLDER	B2013H02-7P
CP605	BZ614485	069S270629	CONNECTOR PCB SIDE	A2001WV2-7P
CP704	BZ614444	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP705	AE004770	06A7706019	CONNECTOR PCB SIDE	136901160W4
CP711	BZ614444	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP712	BZ614444	069D01001A	CONNECTOR PCB SIDE	003P-2100
CP801	BZ614416	069S220629	CONNECTOR PCB SIDE	A2001WV2-2P
CP803	AD301996	069S330010	CONNECTOR PCB SIDE	A2361WV2-3P
CP804	BZ614058	069W010010	CONNECTOR PCB SIDE	005P-2100
CP852	BZ614350	069S230629	CONNECTOR PCB SIDE	A2001WV2-3P
CP853	BZ614349	067U003029	WIRE HOLDER	B2013H02-3P
CD1001	AE004772	06CU241802	CORD,CONNECTOR	CU241802
CD1003	AE004773	06CU263001	CORD,CONNECTOR	CU263001
CD1004	AE004771	06CU143801	CORD,CONNECTOR	CU143801
CD2201	AE004775	06CU283001	CORD,CONNECTOR	CU283001
CD2251	AE005223	06CU013502	CORD,CONNECTOR	CU013502
CP1001	AD301998	069S240629	CONNECTOR PCB SIDE	A2001WV2-4P
CP1003	BZ614242	069S260629	CONNECTOR PCB SIDE	A2001WV2-6P
CP2201	AD301796	069S280629	CONNECTOR PCB SIDE	A2001WV2-8P
CP3601	AE004763	069HYJ3010	CONNECTOR PCB SIDE	DC1R019JDA
CP3602	AE004769	069J1K0048	CONNECTOR	IMSA-9130S-20L
CP3604	BZ614239	069S290639	CONNECTOR PCB SIDE	A2001WR2-9P
CP702A	AE004767	069J1E0048	CONNECTOR PCB SIDE	IMSA-9130S-14L
CP702B	AE004766	069J1E0038	CONNECTOR PCB SIDE	IMSA-9130B-14
CP703A	AE004765	069J1B0048	CONNECTOR PCB SIDE	IMSA-9130S-11L
CP703B	AE004764	069J1B0038	CONNECTOR PCB SIDE	IMSA-9130B-11
CP802B	AD300098	069R270589	CONNECTOR PCB SIDE	52147-0710
CP808A	BZ614276	067U005049	WIRE HOLDER	B2013H02-5P
CP808B	BZ614212	069R250589	CONNECTOR PCB SIDE	52147-0510
CP851A	BZ614349	067U003029	WIRE HOLDER	B2013H02-3P
CP851B	AD300101	069R230589	CONNECTOR PCB SIDE	52147-0310
CUS911	BZ710149	800WFAA008	CUSHION C	
CP3604A	AE004768	069J1K0038	CONNECTOR PCB SIDE	IMSA-9130B-20
EL0701	BZ614043	124116281A	EYE LET	XRY16X28BD
EL0702	BZ614044	124120301A	EYE LET	XRY20X30BD
EL1101	BZ614043	124116281A	EYE LET	XRY16X28BD
EL1102	BZ614044	124120301A	EYE LET	XRY20X30BD
⚠F501	BZ614422	081PC6R305	FUSE	51MS063L
⚠F502	AE004346	0835A07005	MICRO FUSE	20N_7000FSW
⚠F3401	AE004954	0835C01003	MICRO FUSE	20N_1000FS
⚠FB401	AE004753	043730001F	TRANSFORMER,FLYBACK	3730001F
FH501	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
FH502	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
IP701	AE004782	16BJ000010	SCAN CONVERTER	MVPU41B
OS2001	AD301048	0773071001	REMOTE RECEIVER	RPM7138-WH5
⚠RY501	AD300114	0560V20115	RELAY	ALKS321

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
		MISCELLANEOUS		
⚠RY502	AE003621	0560V50118	RELAY	ALKS329
⚠SP1001	AE004777	070Y447002	SPEAKER	S0510F02A
⚠SP1002	AE004777	070Y447002	SPEAKER	S0510F02A
⚠TH502	BZ410079	DF5EL3R0A0	DEGAUSS ELEMENT	ZPB45BL3R0A
TM101	AD302374	07650GR010	TRANSMITTER	CT-90158
⚠TU001	AE004956	0163300013	RF UNIT	115-V-K035ARH
⚠V801	AE004778	0981300501	CRT W/DY	W76MAG185X80
X103	AE004780	100WT01611	CRYSTAL	HC-49/U-S
X603	AE004348	1002R01502	CERAMIC OSCILLATOR	CSBLA503KECZF30-B0
X701	AE004348	1002R01502	CERAMIC OSCILLATOR	CSBLA503KECZF30-B0
X702	AE004349	100CT3R536	CRYSTAL	HC-49/U
X901	BZ613042	100CT01803	CRYSTAL	HC-49/U-S
X3601	AE004779	100CT01101	CRYSTAL	HC-49/U-S

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
CE..... ALUMI ELECTROLYTIC CAPACITOR
CP..... POLYESTER CAPACITOR
CPP..... POLYPROPYLENE CAPACITOR
CPL..... PLASTIC CAPACITOR
CMP..... METAL POLYESTER CAPACITOR
CMPL..... METAL PLASTIC CAPACITOR
CMPP..... METAL POLYPROPYLENE CAPACITOR

CHROMA/PROGRESSIVE/PIN CUSHION SCHEMATIC DIAGRAM (MAIN PCB)

FROM/TO OPERATION

PROTECT
SCL1
SDA1
Y_OUT
PB_OUT
PR_OUT
VD_UP
HD_UP

FROM/TO TV POWER

GND
P.CON+5V
UNREG+12V
P.CON+9V

FROM/TO DEFLECTION

ACL
ACL_PIN
H_DRV+B
V_F/B
EW_F/B
CENTER_DAC
EW_OUT
AFC
H.OUT

PROGRESSIVE IC IC603 TA1360ANG

APL FILTER, Y/C Vcc, VSM OUT, ABCL IN, Ym/P-MUTE/BLK, Ys1(ANALOG OSD), Ys2(ANALOG OSD), Ys3(ANALOG RGB), R S/H, G S/H, B S/H, Ik IN, RGB GND, R OUT, G OUT, B OUT, RGB Vcc, ANALOG OSD R IN, ANALOG OSD G IN, ANALOG OSD B IN, DAC2 (ACB PLUSE), ANALOG R IN, ANALOG G IN, ANALOG B IN, I2L GND, SDA, SCL, I2L Vdd

DARK AREA DET FILTER, BPH FILTER, Y1 IN, Cb1/Pb1 IN, Cr1/Pr1 IN, Y/C GND, LIGHT AREA DET FILTER, Y2 IN, Cb2/Pb2 IN, Cr2/Pr2 IN, COLOR LIMITER, VSM FILTER, H-FREQ SW1, SYNC IN, VD IN, HD IN, SCP IN, CP OUT, DEF/DAC Vcc, AFC FILTER, H VCO, H-FREQ SW2, H CURVE CORRECTION, FBP IN, DEF/DAC GND, H-OUT, VP OUT, DAC1(SYNC OUT)

PIN CUSHION IC602 TA1317ANG

AGC FILTER, V RAMP FILTER, TC FILTER, Vin, BLK OUT, CENTER OUT, V-DF OUT, LVP IN, H-DF OUT, DIGITAL GND, SCL, SDA, Vref, CENTER DAC, EHT IN, V DRIVE, V-DC REF, V NF, Vcc, EW PWN, ANALOG GND, EW FD, EW FILTER, FBP IN

BUFFER Q602 2SA1037AK
BUFFER Q611 2SC2412K
BUFFER Q605 2SC2412K
BUFFER Q603 2SC2412K
BUFFER Q601 2SC2412K
BUFFER Q604 2SC2412K
HD SW Q612 2SC2412K
BUFFER Q613 2SC2412K
Q608 BUFFER KTA1504S_Y_RTK
KTA1504S_Y_RTK Q607 BUFFER
KTA1504S_Y_RTK Q606 BUFFER
KTA1504S_Y_RTK Q615 REMITTER
KTA1504S_Y_RTK Q616 REMITTER
KTA1504S_Y_RTK Q617 REMITTER

FROM/TO CRT/SVM

CP602(CP802B) B2013H02-7P: CUT_OFF(9V) 7, GND(SIGNAL) 6, R OUT 5, G OUT 4, B OUT 3, CLAMP_OFF 2, P.CON+12V 1

CD603(CP801) CU225201: VM COIL 1, GND 2

FROM/TO OPERATION

OSD_BLK1
OSD_BLK2
OSD_R
OSD_G
OSD_B
H_SYNC
V_SYNC

FROM/TO DEFLECTION

ABL_SW2
ABL_SW1

CAUTION: DIGITAL TRANSISTOR

PCB070 CMD003

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

DEFLECTION SCHEMATIC DIAGRAM (MAIN PCB)

TO TILT COIL
CP403 A2502WV2-2P
1 TILT_DR[+]
2 TILT_DR[-]
T1 W843 NC
T2 W844 NC
TILT TEST
C415 0.33 B
R464 10 1/2W
OP AMP IC402 LA6510
VSENCE1 OUT1 -VIN1 +VIN1 VEE +VIN2 -VIN2 OUT2 VSENCE2 VCC
11.5 11.9 4.2 2.9 0 4.5 4.2 11.9 11.5 13.5
R409 2.2
R446 180K
R463 15K 1/4W
R466 10K 1/4W
R467 120K
R471 2.2
C416 16V 100 YK
R472 12 1W
R473 12 1W
R419 1K 1/4W
R461 18K
R465 3.3K
D407 MTZJ15B
D420 MTZJ15B
D421 RGP02-16E
D422 RGP02-16E
R455 68 1/2W
L402 ELH5L7150NC433
2KV 330P R
R468 1K 1W
V.OUTPUT IC401 LA78041
THERMAL PROTECTION
AMP
PUMP UP
VCC GND
4.0 25.0 2.0 0 12.0 25.0 4.0
C427 35V 100 YK
R418 1.2K 1/4W
C423 500V 10P SL
D410 11E1-EIC
R443 1.2K 1/4W
R424 18K +-1%
R432 18K 1/4W
D413 MTZJ33B
C444 0.22 100V MKT
R444 560 1/2W
R447 560 1/2W
R449 560 1/2W
R415 560 1/2W
C443 0.12 100V MKT
C429 35V 100 YK
D418 MTZJ33B
R421 18K +-1%
R428 680 1/4W
C421 50V 4.7 YK
C430 25V 2200 MHE
D414 MTZJ33B
R451 1 1/2W
R462 220 3W
Q402 2SC4793
R439 2.2K 1/2W
R450 1.5K 1/2W
R491 1.5K 1/2W
R437 1.5K 1/2W
R429 2.2 1/2W
R434 2.2 1/2W
R459 2.7 1/2W
R454 1K 1/4W
HS402 763WAA0181 HS33V2
AMP Q413 KTC3198
R423 100
BUFFER Q404 2SC2412K
W841
R426 4.7K
C419 0.056 B
R458 1.2K
R489 1.2K 1/4W
R474 10K
R476 10K
R482 2.7K
V.PARA BORA Q410 2SC2412K
V.PARA BORA Q414 2SC2412K
V.PARABORA Q415 2SC4634
C420 50V10 NA
C422 25V47 YK
R457 8.2K 1/4W
R433 8.2K 1/4W
R488 220K 1/2W
R477 180K 1/2W
R478 82K 1/2W
R479 82K 1/2W
R480 150K 1/2W
R481 270K 1/2W
C424 1.5KV 0.0068 MPP
R475 56K
C435 1.5KV 0.0068 MPP
FROM/TO DY
CP404 B06B-DVS
6 5 NG 4 3 NG 2 1
CD807 CU013005
CD803 (CP803) CP83035A
TO CRT
B G R
V801 W76MAG185X
FROM/TO CHROMA/PROGRE/PIN
V_F/B
H.OUT
H_DRV+B
CENTER_DAC
AFC
ACL_PIN
ACL
EW_OUT
EW_F/B
FROM/TO OPERATION
TILT_DRIVE
X-RAY
W802
T401 ETH19K208AZ
H.DRIVE Q401 2SC3328_Y(TPE6_F)
17.3 0.4 0
C409 330P B
C405 0.039 M
R407 330 1/2W
C407 50V 22 MHE
R492 101W
R408 2 0.22 1W
W804
12 2.8 0.1 0
FL OUT Q403 2SC5904000LI
R414 220 1/4W
HS8V HS401 763WAA0212
W818
B403 W5RH3.5X5X1.0
D405 FMQ-3GULF027-102
HS403 763WAA0212 HS8V
C418 1.5KV 0.0065 MPP
C412 250V 0.3 PMS
C438 250V 0.033 PMS
L406 ELC18B151LK
W829
C417 1 630V 0.01 PP
FB401 3730001F
COL E180 B+ DAF AFC HEATE GND NC E15 E25
H1 F2 F1 S 13 11 14 12 7 ABL
L405 ELC18B821LM
R483 221W
C401 100V0.027 MKT
R485 12K 1/2W
T402 86290014
0.1 6 9.5 1
367 7
386 8 NC
370 9 NC
401 12
R460 1M 1/2W 220 +-10%
TO CRT
ANORD
FOCUS 1
FOCUS 2
SCREEN
R406 68 2W
D403 11E1-EIC
D404 11E1-EIC
R417 270 2W
C406 500V 220P B
D406 RGP10J-EIC
B404 W5RH3.5X5X1.0
B405 W5RH3.5X5X1.0
R416 2.2 2W
L408 ELC18B103LM
L407 ELC18B151LK
R438 3.3K 1W
C437 500V 100P B
C436 500V0.001 B
D412 AU02A-EIC
W805
E/W SWITCHING Q402 2SK2920(Q)
R413 2.2 2W
R410 1001/4W
R411 39K 1/4W
R422 3.9K 1/4W
C441 100V 0.047 MMTS
R436 10K 1/4W
C425 250V 3.3 PMS
C426 250V 22 YK
D409 MTZJ15B
C442 100V 0.082 MKT
R440 1K 1/4W
C434 35V 2200 MHE
D411 MTZJ9.1B
PROTECT TEST
W834 NC
W835 NC
R445 1 3.3 1W
FROM/TO TV POWER
UNREG+12V
H_GND
GND
+B
R430 1.8 10W
FROM/TO CHROMA/PROGRE/PIN
ABL_SW1
ABL_SW2
R427 56K1/4W
SW Q405 DTC114EKA
R431 56K1/4W
SW Q406 DTC114EKA
R442 5.6K 1/4W
R486 33K 1/2W
R441 5.6K 1/4W
D417 MTZJ39B
R404 220K 1/4W
W840
D408 MTZJ5.6B
W830
R403 18K +-1%
R405 15K +-1%
D402 AU02A-EIC
X-RAY
R401 2.2K +-1%
C403 100V 22 YK
C404_1 160V 47 ED
D415 AU02A-EIC
W803
C446 250V 22 MHE
R452 270K 1/2W
C445 0.01 250V MMTS
FROM/TO CRT/SVM
CP808A(CP808B) B2013H02-5P
180V 1
NC 2
NC 3
GND 4
HEATER 5
PCB070 CMD003
R487 10K 1/4W

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

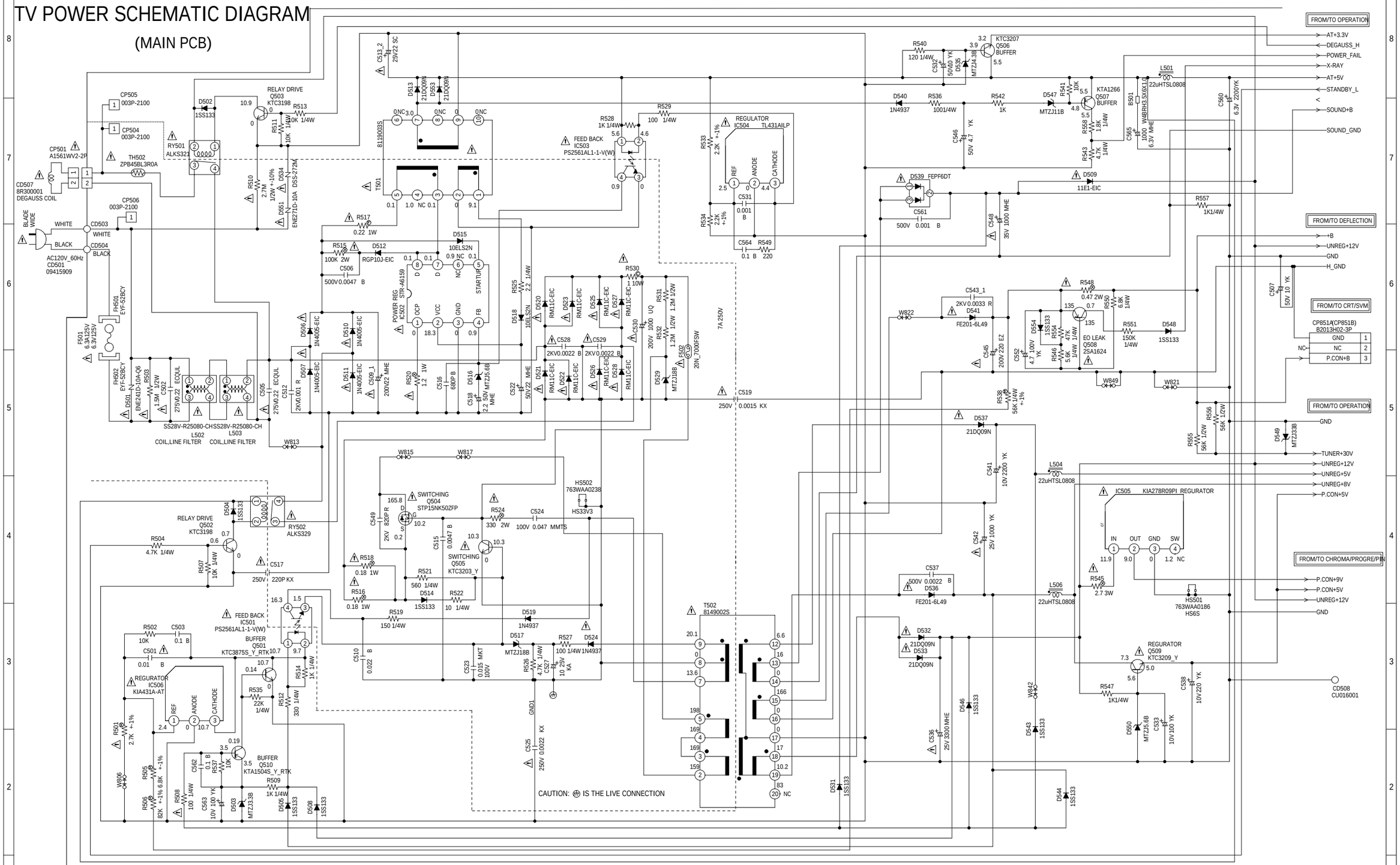
CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION:LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CAUTION: DIGITAL TRANSISTOR

TV POWER SCHEMATIC DIAGRAM

(MAIN PCB)



CAUTION FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE6.3A 125V(F501), 7A 250V(F502) AND 1A 125V(F3401)

ATTENTION POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 6.3A 125V (F501) 7A 250V(F502) ET 1A 125V(F3401)

CAUTION F502 AND F3401 ARE MANUFACTURED BY SKYGATE CO.,LTD, TYPE 20N.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

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PCB070
CMD003

OPERATION SCHEMATIC DIAGRAM

(MAIN PCB)

FROM/TO REGUATOR

CD509(CP509)
CU2C2501

12	GND
11	GND
10	AT+5V
9	AT+3.3V
8	UNREG+8V
7	UNREG+12V
6	UNREG+5V
5	TUNER+30V
4	POWER_FAIL
3	STANDBY_L
2	DEGAUSS_H
1	TV_POWER_H

L505
W5T29X7.5X19

FROM/TO TV POWER

DEGAUSS_H
STANDBY_L
POWER_FAIL
TUNER+30V
UNREG+5V
UNREG+8V
UNREG+12V
AT+3.3V
AT+5V
GND
SOUND+B
SOUND_GND
X-RAY
P.CON+5V

FROM/TO DEFLECTION

X-RAY
TILT_DRIVE

FROM/TO SYNC COUNT/CONNECTOR

CD601(CP601) CU291901

1	Y_OUT
2	GND
3	Pb_OUT
4	GND
5	Pr_OUT
6	GND
7	VD_UP
8	HD_UP
9	H_BLK NC

D615 MTZJ9.1B
D616 MTZJ9.1B
D617 MTZJ9.1B

FROM/TO MICON1

CD602(CP605) CU273301

1	H_SYNC
2	V_SYNC
3	OSD_R
4	OSD_G
5	OSD_B
6	SDA1
7	SCL1

FROM/TO CHROMA/PROGRE/PIN

SCL1
SDA1
OSD_B
OSD_G
OSD_R
V_SYNC
H_SYNC
VD_UP
HD_UP
PR_OUT
PB_OUT
Y_OUT
PROTECT
OSD_BLK1
OSD_BLK2

FROM/TO MICON1

CD101(CP101)
CU2B3301

11	OSD_BLK2
10	OSD_BLK1
9	X_RAY
8	H_CONTROL NC
7	PROTECT
6	TILT_DRIVE
5	GND
4	AUDIO_MUTE
3	KEY_B
2	KEY_A
1	REMOCON

W839
0 KO

CP510 003P-2100

1	GND

C569_1
100P CH

R560
0.47 7W

C567
1uF
250
25V YK

FROM/TO SOUND AMP FRONT AV

CP1003(CD1003)
A2001WV2-6P

SOUND+B	1
SOUND_GND	2
GND	3
AUDIO_MUTE	4
TV_POWER_H	5
UNREG+12V	6

R1098
1K

R1097
1K

MUTE_SW
Q1098
2SC2412K

5.0
0
0

R1099
1K

MUTE_SW
Q1099
2SC2412K

W808
0 KO

R2001
560

R2002
2.7K

R2004
560

CH UP SW2001 EVQ21505R
VOL UP SW2002 EVQ21505R
CH DOWN SW2003 EVQ21505R
VOL DOWN SW2004 EVQ21505R
POWER SW2005 EVQ21505R

OS2001
RPM7138-WH5

B+ 3 5.0
GND 2 0
Vout 1 4.9

R2003
47 1/4W

C2001
25V10 KA

0 LED SW
Q2001
KRC103SRTK
4.9
0.2

D2001
11EQS04

POWER ON

D2009
SLR-342VCT32
RED LED

R2005
1/4W 270

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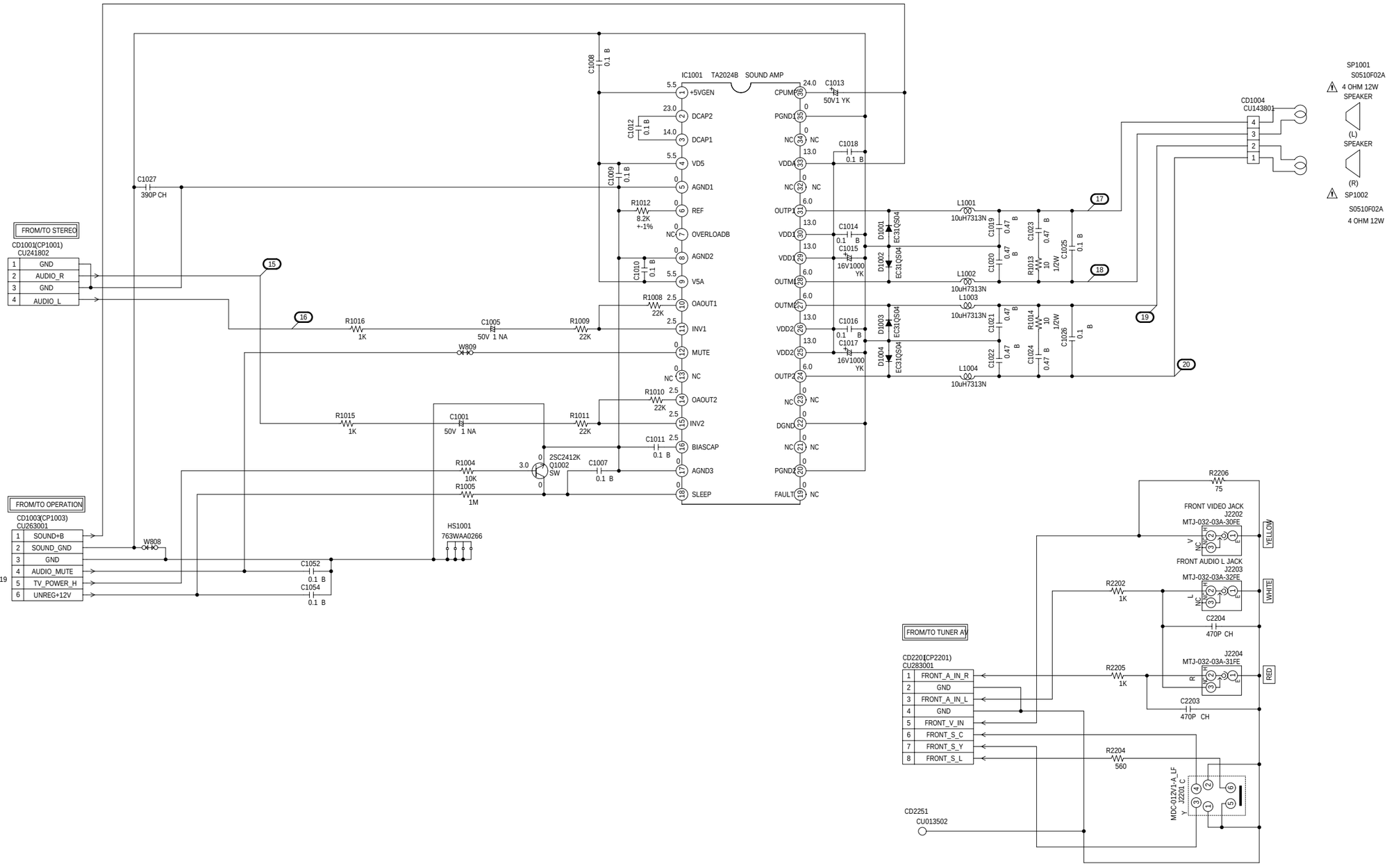
CAUTION: DIGITAL TRANSISTOR

PCB070
CMD003

SOUND AMP/ FRONT AV SCHEMATIC DIAGRAM

(FRONT JACK)



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PCB260
CED006

MICON1 SCHEMATIC DIAGRAM

(AV PCB)

EEP ROM IC 64K
IC199 BR24L64F-WE2

MICON
IC101
OEC7111A

SYSTEM RESET
IC102 PST3229NR

Q103 BUFFER
KTC3875S_Y_RTK

Q101
KTC3875S_Y_RTK

Q102
KTC3875S_Y_RTK

B101
W5RH3.5X5X1.0

EEP_DATA
CP103 A2001WR2-7P

	GND	1
	SCL_EEP	2
	SDA_EEP	3
	IIC_OFF	4
NC	NC	5
	SDA1	6
	SCL1	7

MICON_DATA
CP102 A2001WV2-10P

	GND	1
	TX	2
	BUSY	3
NC	NC	4
	VCC	5
	CLK	6
	RX	7
	CNVSS	8
	RESET	9
	GND	10

CP605(CD605)
A2001WV2-7P

	H_SYNC	1
	V_SYNC	2
	OSD_R	3
	OSD_G	4
	OSD_B	5
	SDA1	6
	SCL1	7

CP101(CD101)
A2001WV2-11P

	OSD_BLK2	11
	OSD_BLK1	10
	X-RAY	9
	H_CONTROL	8
	PROTECT	7
	TILT_DRIVE	6
	GND	5
	AUDIO_MUTE	4
	KEY_B	3
	KEY_A	2
	REMOCON	1

FROM/TO TUNER/AV
FROM/TO STEREO
FROM/TO SYNC COUNT/CONNECTOR
FROM/TO OPERATION
FROM/TO REGURATOR

79.S_DET_2
80.S_DET_3
81.TV POWER
82.CHROMA POWER

52.EXT MUTE
51.AUDIO MUTE
50.(FLASH ADD.15)
49.(FLASH ADD.14)
48.(FLASH RESET)

99.VCC(5V)
100.CVIN_MAIN
1.V.HOLD_MAIN
2.HLF_MAIN

32.OSD R
31.SDA2
30.HDMI Tx
29.HDMI Rx

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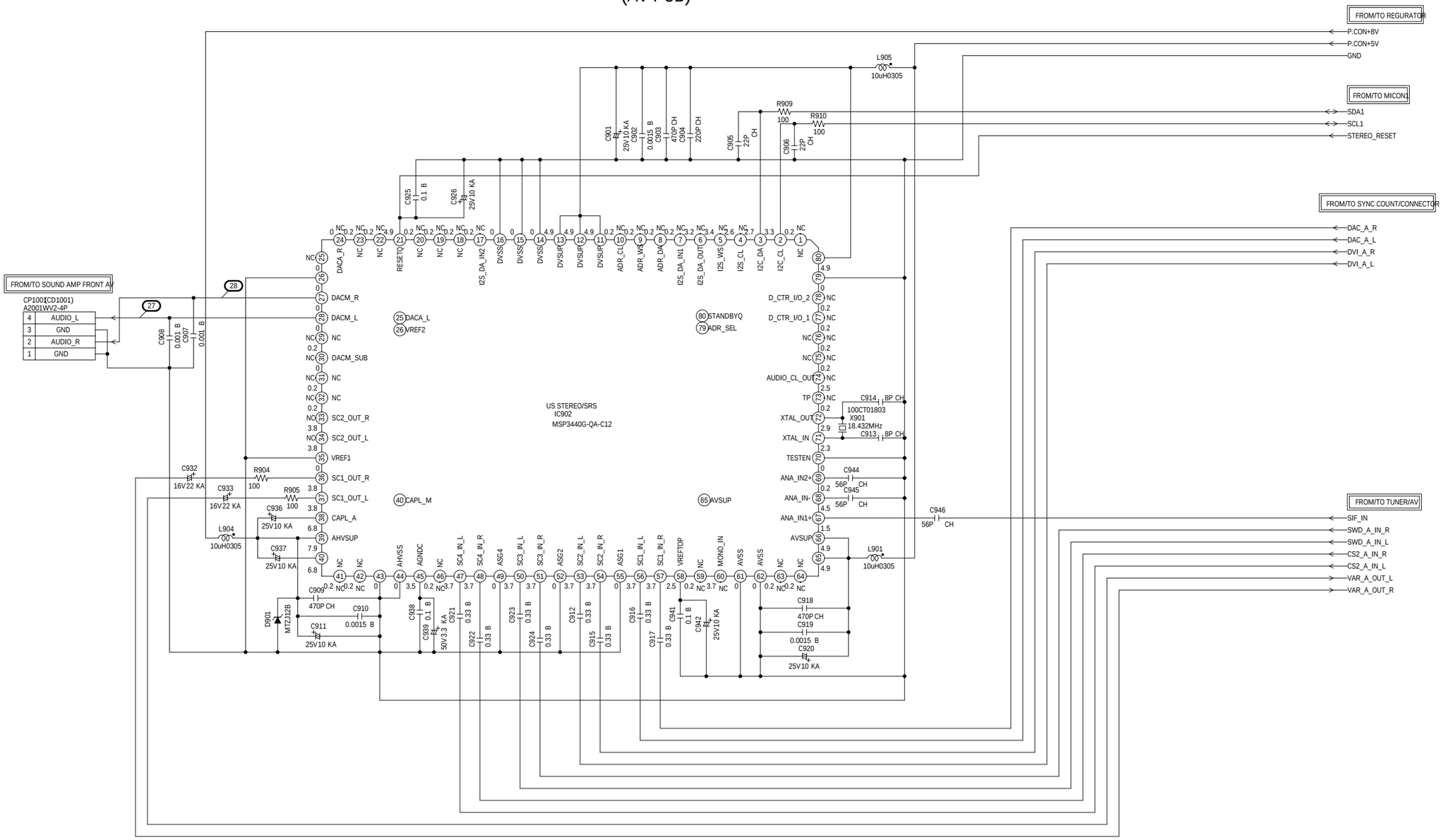
PCBD20
CED009

STEREO SCHEMATIC DIAGRAM

(AV PCB)



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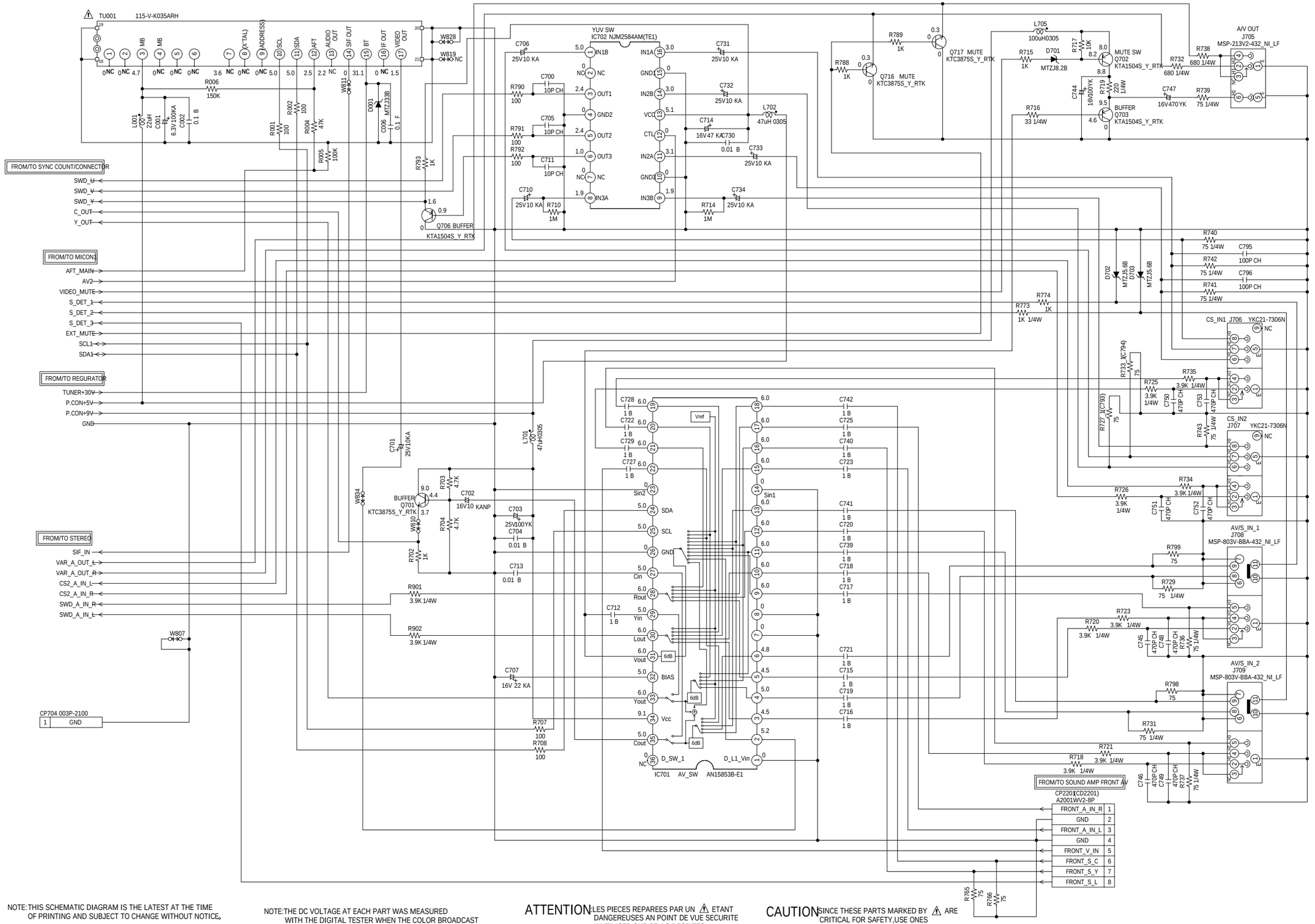
PCBD20
CED009

TUNER / AV SCHEMATIC DIAGRAM (AV PCB)



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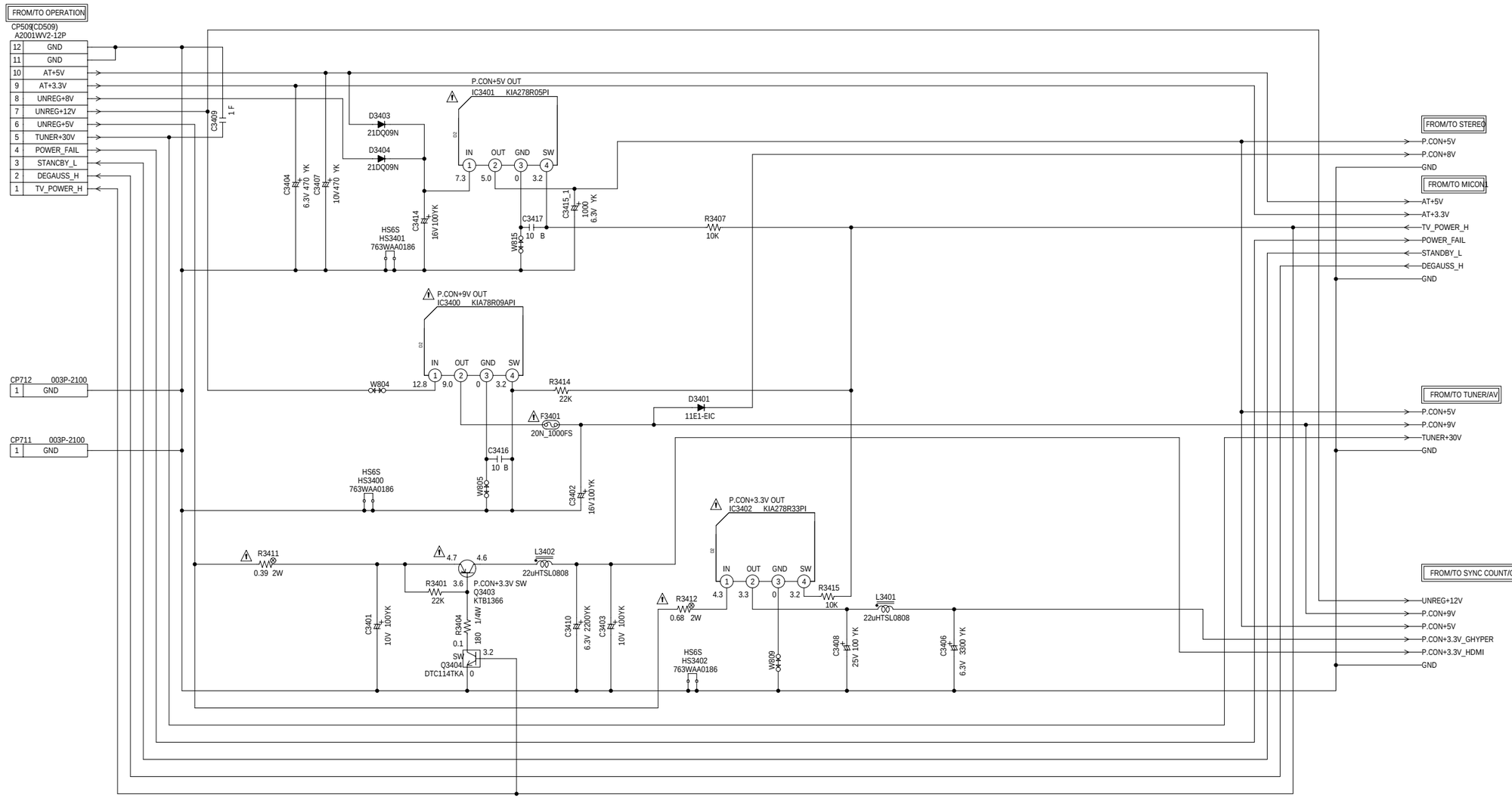
REGURATOR SCHEMATIC DIAGRAM

(AV PCB)



CAUTION :FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE 6.3A 125V(F501) 7A 250V(F502) AND 1A 125V(F3401).

ATTENTION :POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 6.3A 125V(F501) 7A 250V(F502) ET 1A 125V(F3401).

CAUTION :F502 AND F3401 ARE MANUFACTURED BY SKYGATE CO., LTD, TYPE 20N.

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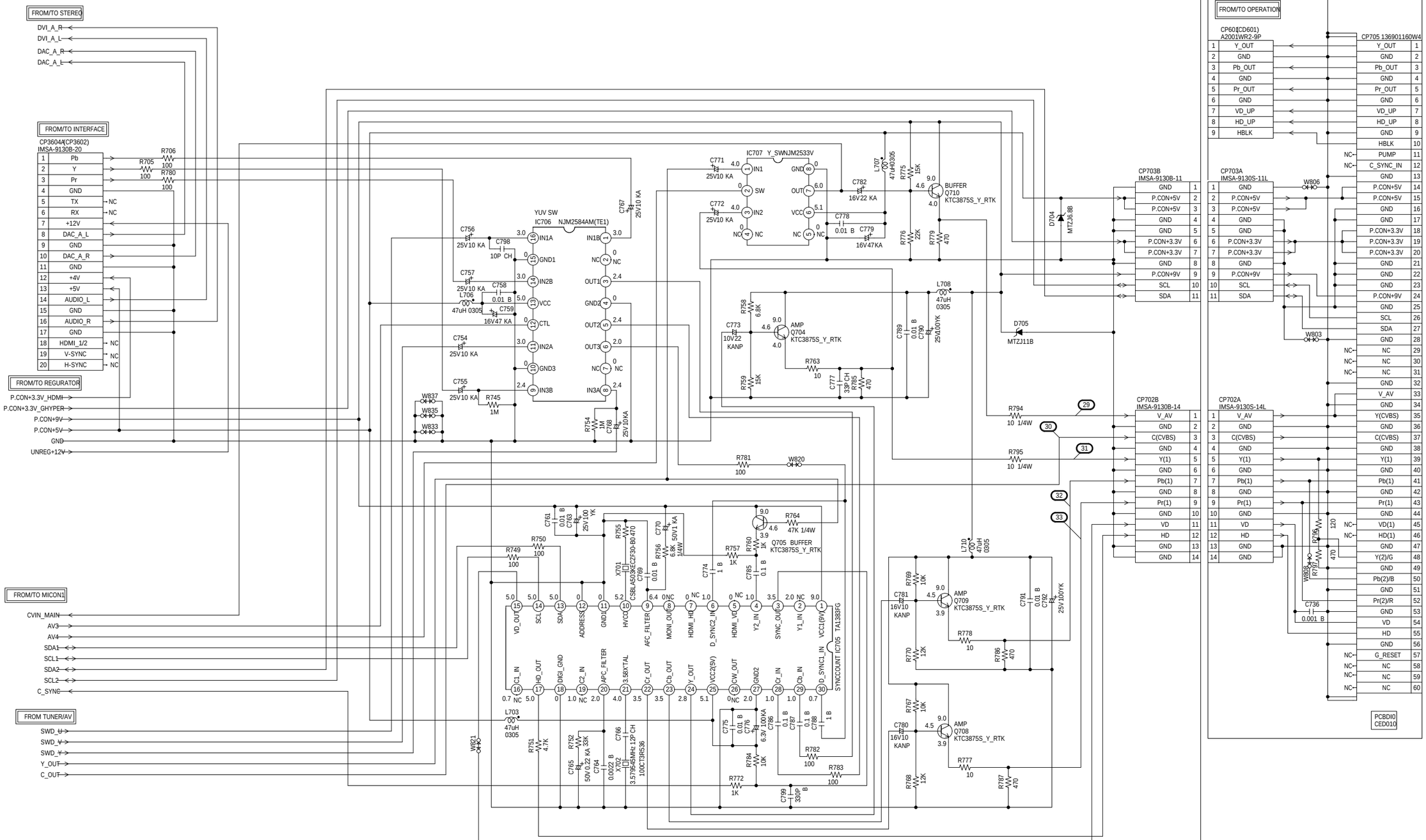
CAUTION: DIGITAL TRANSISTOR

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

PCBD20
CED009

SYNC COUNT/CONNECTOR SCHEMATIC DIAGRAM

(AV PCB)



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CRT/CVM SCHEMATIC DIAGRAM (CRT PCB)

CRT BLOCK

SVM BLOCK

FROM/TO CHROMA/PROGRE/PIN

CP802B(CP602)
52147-0710

7	CUT_OFF(9V)
6	GND(SIGNAL)
5	R.OUT
4	G.OUT
3	B.OUT
2	CLAMP_OFF
1	P.CON+12V

FROM/TO TV POWER

CP851B(CP851A)
52147-0310

GND	1
NC	2
P.CON+B	3

FROM/TO DEFLECTION

CP808B(CP808A)
52147-0510

5	HEATER
4	GND
3	NC
2	NC
1	180V

CP803(CD803)
A2361WV2-3P

3	GND
2	GND
1	GND

FOCUS 2

FOCUS 1

CP804
0059-2100

1	SCREEN

FROM/TO CHROMA/PROGRE/PIN

CP801(CD603)
A2001WV2-2P

2	GND
1	VM COIL

FROM/TO VM COIL

CP852 (CP853)
A2001WV2-3P

VM1	1
NC	2
VM2	3

PCB110
CCD002

(VM COIL PCB)

PCBD80
CED012

FROM/TO CRT/SVM

CP853(CP852)
B2013H02-3P

1	1
NC	2
3	3

CD852_1
CU232001

1	1
2	2
3	3

FROM/TO VM COIL

S853

S854

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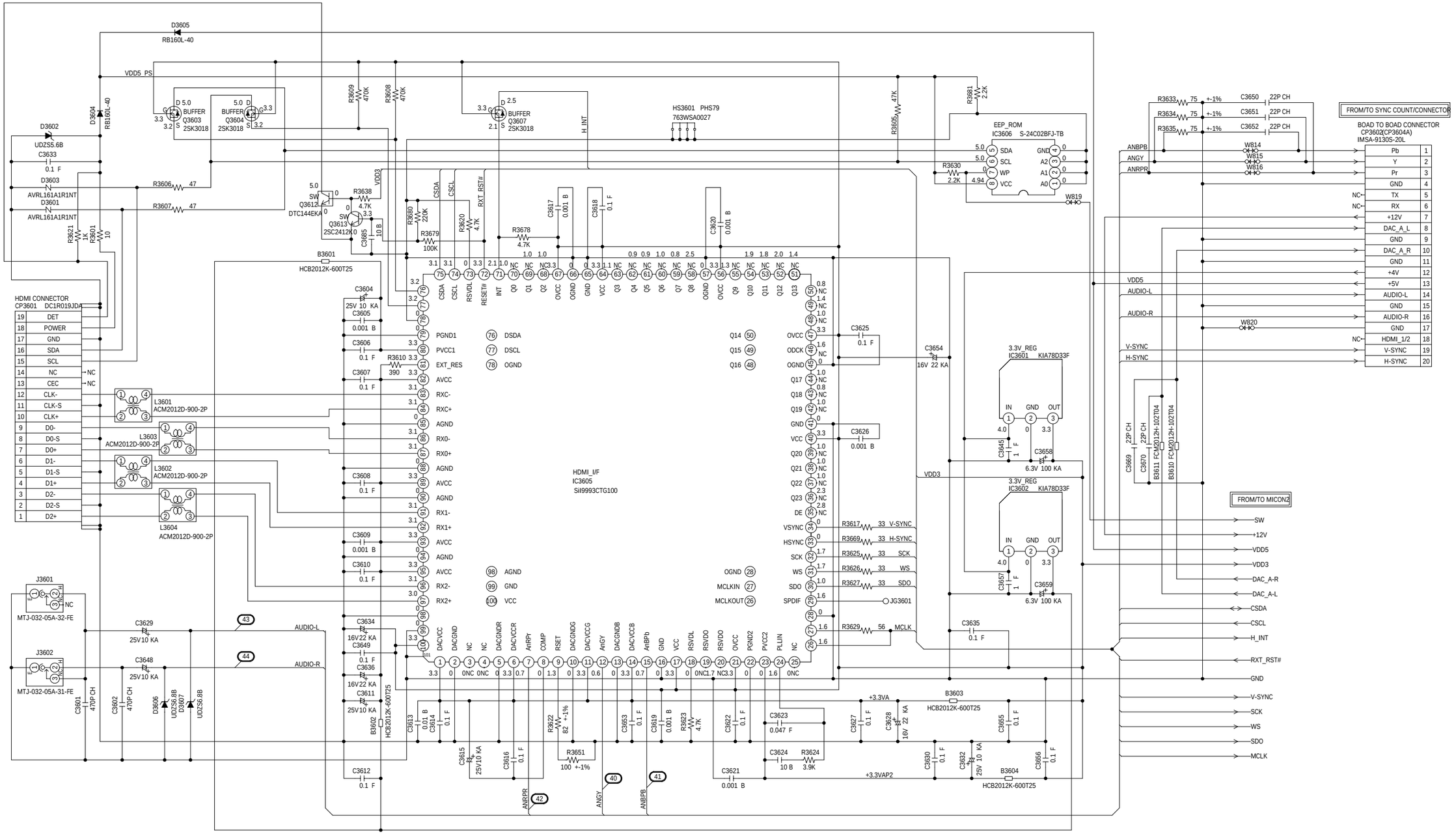
INTERFACE SCHEMATIC DIAGRAM

(HD-MI PCB)



CAUTION: DIGITAL TRANSISTOR

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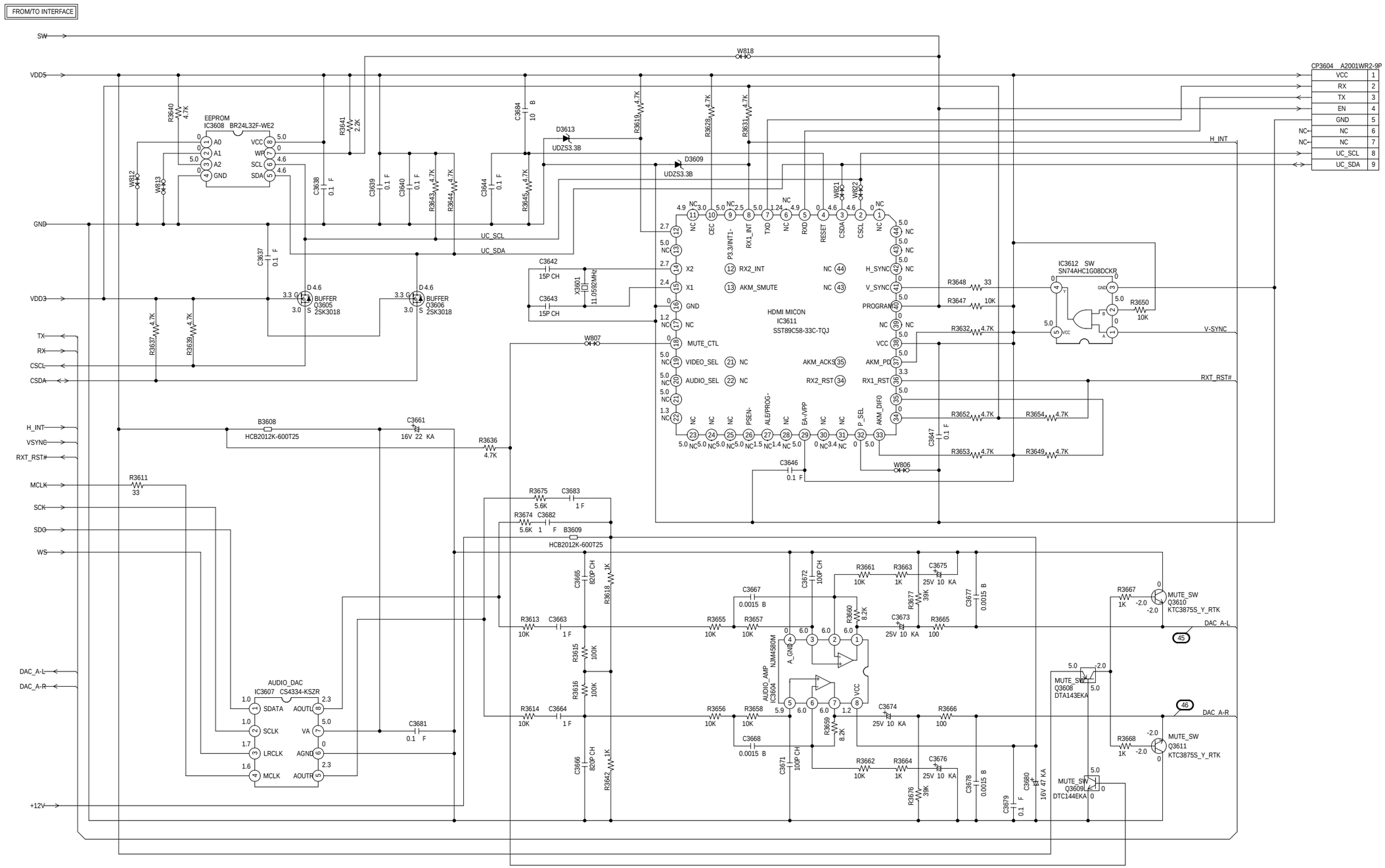
MICON2 SCHEMATIC DIAGRAM

(HD-MI PCB)



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PCBDJ0
CED011